PACKING PROCESSORS
Putting more and more CPU cores on a chip isn't a challenge, says AMD's Hector Ruiz. **PAGE 14**

BEYOND BANGALORE
Diana Farrell says there's a big supply of offshore IT talent in untapped areas, such as Dubai. **PAGE 44**

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JUNE 5, 2006 ■ VOL. 40 ■ NO. 23 ■ $5/COPY

Sun Users Left to Wonder What's Next

Vendor plans to slash up to 5,000 jobs, cut R&D and 'simplify' product lines

BY PATRICK THIBODEAU

Sun Microsystems Inc. last week revealed plans to cut its workforce by 4,000 to 5,000, sell off some real estate, eliminate redundant R&D projects and "simplify" its product line.

What the company hasn't said is what products will be affected, how research and development will change, and whether customers will be dealing with different Sun representatives after the layoff of 11% to 13% of its employees.

In his announcement of the moves to financial analysts last week, Sun CEO Jonathan Schwartz pledged that customers will not be affected by the cutbacks. Schwartz contended that the changes will improve the company's focus on core products.

Analysts were skeptical of Schwartz's pledge and predicted that Sun's customers will see changes such as potential cutbacks in sales support. Meanwhile, Sun users are simply hoping that the company will provide more details about how the cutbacks may affect them.

> "I think Jonathan [Schwartz] has a pretty clear understanding of what he needs to get done, but a lot of us are foggy on the details."
>
> **BRIAN CONLON,** CIO, HOWREY SIMON ARNOLD & WHITE LLP

"It's cloudy for all of us," Brian Conlon, CIO at Washington-based Howrey Simon Arnold & White LLP, said of Sun's plans. But Conlon, whose law firm uses Solaris-based UltraSparc systems to run its ERP and financial applications, said he remains committed to Sun. "For availability and reliability, it hasn't changed — we're still big fans," he said.

Based on what he gleaned from a meeting with Schwartz last year, Conlon said, "I think Jonathan has a pretty clear understanding of what he needs to get done, but a lot of us are foggy on the details."

Conlon said the layoffs could make the company leaner, and

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IT's STORM SURGE

NEWS SPECIAL REPORT

The Atlantic hurricane season officially began last week. From North Carolina to Texas, IT managers with fresh memories of Katrina and last year's other big storms are rushing to finish shoring up their systems and disaster recovery plans. But for many, there's still more work to be done.

Sharon Fisher, Heather Havenstein and Patrick Thibodeau report. **Stories start on PAGE 6.**

VA Takes Initial Steps to Address Security Woes

Agency promises to reform internal policies following massive data breach

BY JAIKUMAR VIJAYAN

The fallout from the massive security breach at the U.S. Department of Veterans Affairs continued last week with the appointment of a "special adviser for information security" at the agency and an announcement that the VA is firing the data analyst who improperly took personal information about 26.5 million veterans home with him.

Beleaguered VA Secretary R. James Nicholson also made several management changes in the VA's Office of Policy and Planning, the division in which the data analyst worked. In addition, Nicholson has ordered all VA employees to complete an annual data privacy and cybersecurity awareness training course by the end of June and directed senior officials at the agency to compile a master list of all workers and contractors who need to access sensitive data.

The moves were triggered by last month's disclosure that a laptop PC and external hard drive were stolen from the data analyst's home, potentially compromising the names, birth dates and Social Security numbers of all veter-

VA Security, page 16

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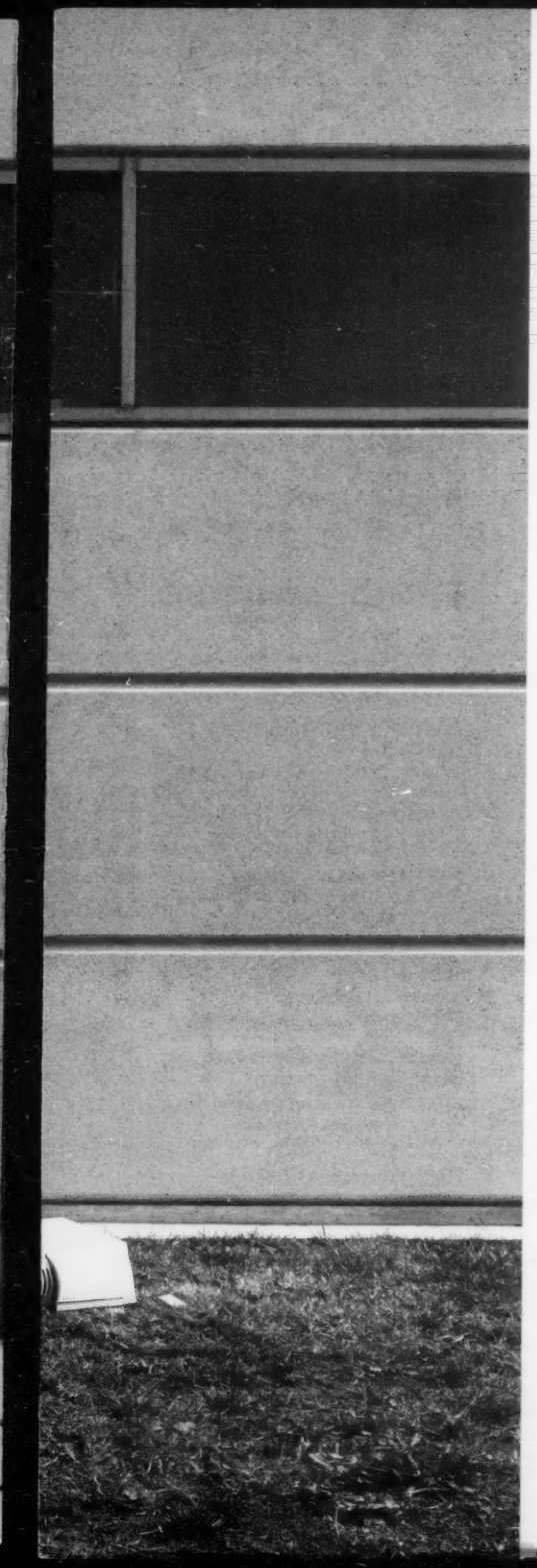

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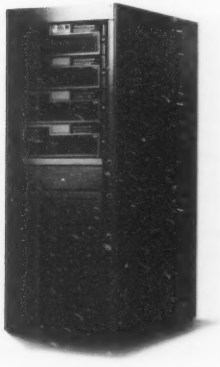

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Remote Control
In the Management section: Do you know how to manage an outsourced project? Marriott International's Kent Petty and Accenture's Yutta Shelton have a deceptively simple suggestion. **Page 39**

NEWS

IT'S STORM SURGE

The Atlantic hurricane season began last week. But many IT managers in the Katrina disaster zone and elsewhere are still working to improve their defenses. **Also:** IT adopts new procedures to help boost preparedness; and users assess the pros and cons of hot sites.

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20 Things You Won't Like About Vista

OPERATING SYSTEMS: Scot Finnie takes a long, hard look at what will become the next version of Windows in this visual tour.
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What You Need to Know About Network Provisioning

NETWORKING: Don't miss these tips from an expert at US Airways West, which runs more than 20 core applications through its network to support a highly disbursed international workforce.
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Back From the Brink

WEBCAST: Last year's hurricane season caused chaos on the Gulf Coast. In this panel discussion, recorded at *Computerworld*'s 2006 Premier 100 IT Leaders Conference, IT executives who lived through it offer candid views of how their IT and business continuity plans worked, what they didn't see coming, and how they plan to prepare for and respond to the next calamity.
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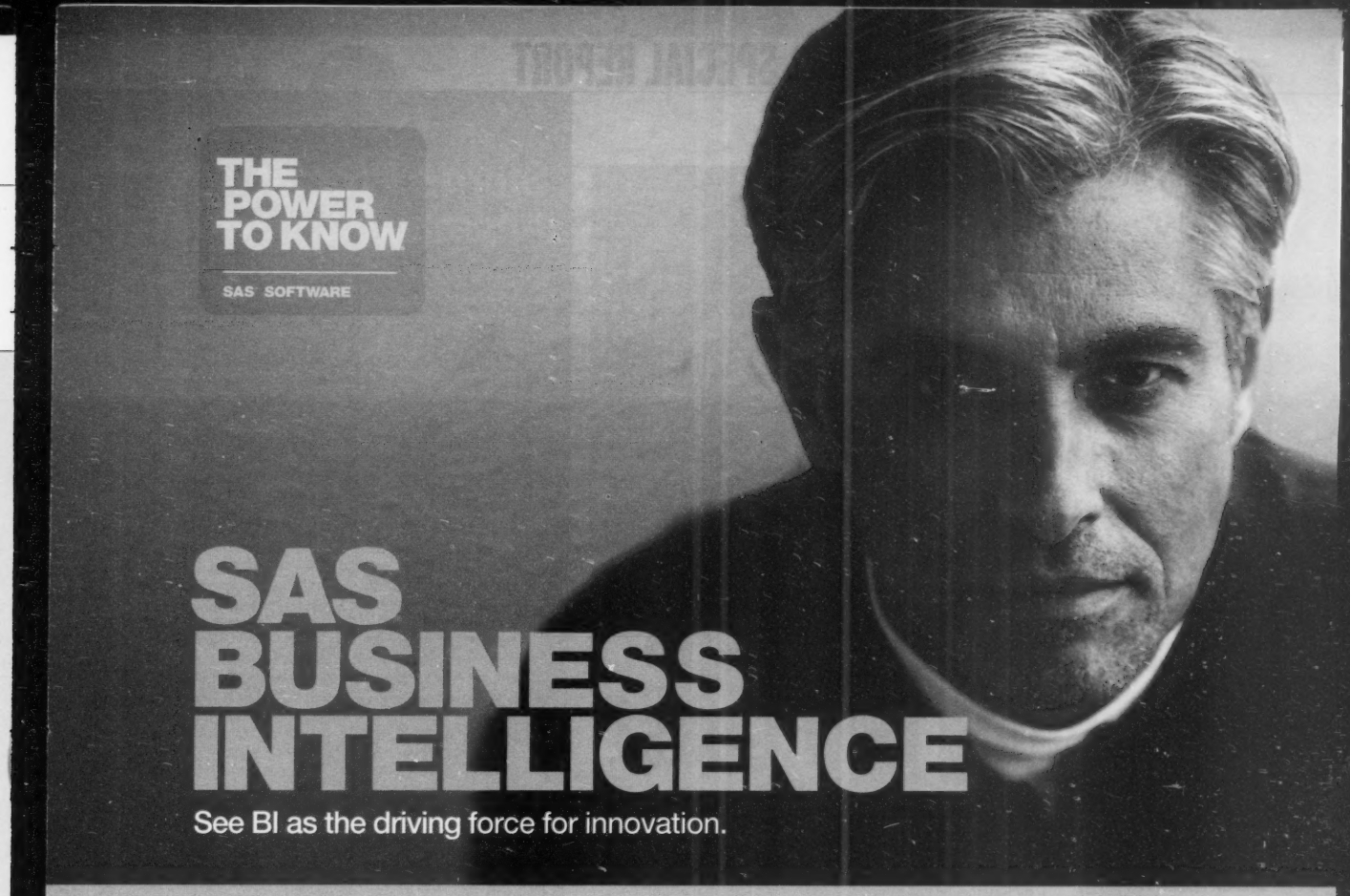

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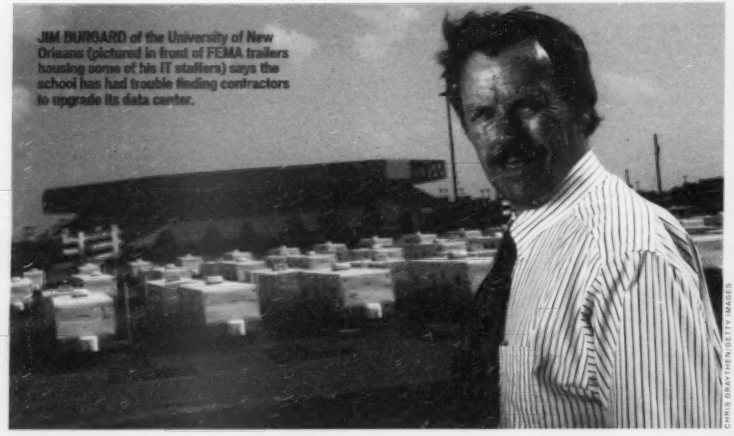

JIM BURGARD of the University of New Orleans (pictured in front of FEMA trailers housing some of his IT staffers) says the school has had trouble finding contractors to upgrade its data center.

CHRIS GRATHEN/GETTY IMAGES

IT Execs Race Against Time Along Gulf Coast

Users scramble to shore up systems as the new hurricane season starts

BY HEATHER HAVENSTEIN, SHARON FISHER AND PATRICK THIBODEAU

FROM HIS office window at the University of New Orleans, Jim Burgard can see construction crews working feverishly to repair the London Avenue canal, which was breached during Hurricane Katrina last August — causing flooding on campus and contributing heavily to the catastrophic inundation of most of the Crescent City.

Burgard, who is the assistant vice chancellor for university computing and communications, and his staff have also been toiling to shore up the school's IT systems for the possibility of another big storm. Like many other users working on similar initiatives in the section of the Gulf Coast ravaged by Katrina, he had hoped to meet a self-imposed deadline of last Thursday. That day marked the official start of this year's hurricane season.

But Burgard now doesn't expect to finish all the work needed to overhaul and upgrade his business continuity and disaster recovery capabilities until the end of August.

The University of New Orleans is still running 75% of its mission-critical applications on 25 servers housed at Louisiana State University's data center in Baton Rouge. The school had planned to shift those applications back to its own data center by mid-April, but Burgard said it ran into delays in upgrading its air conditioning and uninterruptible power supply systems and installing a new generator powered by natural gas. The culprit: the difficulty of snagging scarce — and pricey — contractors to do the work.

"It didn't make a lot of sense to switch our applications back to campus and have to deal with outages because of the work we're doing in the computer room," Burgard said. His new goal is to complete the data center upgrades by the end of this month.

The servers at LSU will remain there even after the work in New Orleans is done, turning the makeshift Baton Rouge data center into a hot-swappable disaster recovery site. Burgard plans to mirror and replicate the university's data to those servers so they can take over processing if the New Orleans campus has to be evacuated again. He said it likely will take until late August to finish setting up the replication process.

Other IT managers whose operations were in Katrina's path also are still working to

Continued on page 8

Storms Prompt New Approaches Inside IT

IN ADDITION TO upgrading their data center facilities and their communications and data-backup capabilities, some IT managers are adopting new procedures that they hope will further boost the hurricane preparedness of their companies.

For example, Dave Muntz, CIO at Texas Health Resources Inc. in Arlington, has put his 335 IT staffers through disaster recovery drills for years. But after seeing the utter devastation caused by Hurricane Katrina, Muntz added a new twist: He made the drills a surprise. Previously, the IT workers were given some warning that a test was coming.

The first unannounced test was conducted in April. Muntz said IT staffers received a message late one day telling them that the health care provider's systems were unavailable. For some, going into disaster recovery mode meant working all night and into a weekend. In addition, a small team was dispatched to SunGard Data Systems Inc.'s hot-site facility in Philadelphia, where they mounted tapes to restore the company's systems.

To add to the realism, Muntz timed the test to take place when the IT department was busy working on projects. "We do it at the most inopportune time to make sure we can test ourselves under great stress," he said. "We don't do it when everything is going smoothly."

Lessons were learned at the SunGard facility. For instance, a configuration problem arose when a highly available application that requires two CPUs was put on a machine with just one processor. "It wanted the other CPU to be available," Muntz said. "Those are the kinds of things that you can't learn except by doing."

Hurricane Katrina prompted Office Depot Inc. to take steps to improve its internal communications capabilities. Critical teams of workers are being equipped with laptops that have nationwide broadband cellular access, said Tom Serio, director of global business continuity at the Delray Beach, Fla.-based retailer.

But what became particularly important after Katrina was ensuring that the company has multiple ways to contact employees. Standard means of contact, such as addresses and phone numbers, weren't enough "after people evacuated to the four corners of the country," Serio said.

He added that Office Depot now also asks employees to provide contact information for their spouses or partners, plus home e-mail addresses, BlackBerry PINs, the name of an out-of-state relative and details on whether their cell phones accept text messages.

F.A. Richard & Associates Inc., an insurance services firm in Mandeville, La., was hit by three hurricanes last year. Katrina, followed by Rita, which affected its Lafayette, La., and Houston offices, and Wilma, which knocked out power at its Boca Raton, Fla., office for two weeks. Consequently, FARA doesn't just have a Plan B for this year — it also has a Plan C, said David Casse, its IT and telecommunications manager.

For example, the company has documented what each of its workers does and made plans for how the functions could be performed if individual employees weren't available during an emergency, Casse said. Similarly, FARA has audited all of its computers and documented the tasks they handle, whether the work could be re-created and whether the systems needed to be backed up, mirrored or made redundant.

Mike Clark, systems manager at Unibill Inc. in Lake Charles, La., thought the billing services provider was well protected last year. Unibill is headquartered in an old bank building that is located on high ground and capable of withstanding just about anything, Clark said.

But when Hurricane Rita blew through the area, the total loss of local telecommunications services caught Clark by surprise. It took five weeks for the services to be restored, prompting him to switch service providers in preparation for the new hurricane season.

The lesson he learned: Take nothing for granted. "The implications are so catastrophic that we have no choice but to expect that we will be hit this year," Clark said. "To think of it any other way is to invite more headaches and heartaches."

– PATRICK THIBODEAU AND SHARON FISHER

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put stronger defenses in place. For example, since Katrina rendered the Gulfport, Miss., headquarters of Hancock Bank uninhabitable, the bank has been running its IT operations from a building that previously housed its training staff. Now Hancock is building a hardened data center, also in Gulfport but 10 miles from the ocean and at a higher elevation than the former headquarters, said Norman McDonald, manager of information security and business continuity at the bank.

However, the new data center isn't scheduled to be completed until next spring. "We will be facing the upcoming hurricane season in a less than ideal situation buildingwise," he said.

In addition, the bank — which ran its IT systems from disaster recovery hot sites in Chicago and Atlanta for two and a half months after Katrina — began a project late last month to set up capabilities for replicating data to the Chicago facility. That work should be completed within 60 days, according to McDonald. The goal, he said, is to have the bank's customer-facing systems back up within four hours of being shut down in the event of a hurricane or other disaster.

One of the main challenges for the New Orleans-based Ochsner Clinic Foundation during the aftermath of Katrina was its inability to generate enough power at times to cool its primary data center. The health care provider, which operates a 600-bed hospital in the city and medical clinics throughout Louisiana, has since added a fourth diesel generator and acquired some portable spot chillers, said CIO Lynn Witherspoon.

Ochsner also has tried to improve the redundancy of its WAN by adding a third Internet circuit in Covington, La., and burying an existing one that previously was located on a telephone pole on the hospital grounds, he added.

But there's more to be done. Although Ochsner has a disaster recovery hot site in place for its mainframe, Witherspoon said the foundation needs a recovery plan for its Lawson ERP applications and its electronic medical records system. The IT staff has begun a project to replicate the medical records to a data center in Baton Rouge, but that isn't scheduled to be finished until the end of the summer.

"Katrina was the hundred-year storm," Witherspoon said. "We'd all feel much more comfortable if some of this was in place right now because of the fragility of the hurricane protection here in New Orleans. But we're crossing our fingers and hoping this isn't the second hundred years."

That isn't a sure bet, according to the National Oceanic and Atmospheric Administration. In a report released in late May, NOAA said there is an 80% chance that this year's hurricane season will be another above-normal one. The agency predicted that there will be between 13 and 16 named storms this season, with four to six of them developing into major hurricanes.

Keesler Federal Credit Union in Biloxi, Miss., will complete a project to install satellite communications technology at its 14 U.S. locations by the end of June, said Larry Mayo, Keesler's vice president of information technologies. The credit union also has deployed a converged data and voice network that will be able to work over the satellite links.

However, the new setup couldn't handle all of Keesler's voice traffic if local telecommunications service went down again, Mayo said. "We're making a trade-off until we get our redundant data center outside the Gulf Coast built," he said, adding that the processing of voice and data traffic will be collocated at the new facility.

The remote data center will be located either in Atlanta or Dallas, according to Mayo.

"Katrina was the hundred-year storm. We'd all feel much more comfortable if some of this was in place right now. But we're crossing our fingers and hoping this isn't the second hundred years.

LYNN WITHERSPOON, CIO AT THE OCHSNER CLINIC FOUNDATION, ON THE HEALTH CARE PROVIDER'S PLAN TO EXPAND ITS DATA REPLICATION CAPABILITIES

Keesler also plans to replicate data to that facility and to two locations in the Gulf Coast region, he said. Work on the replication project began in May.

Officials at Intralox LLC, a maker of modular plastic conveyor belts in Harahan, La., thought it was well prepared for a disaster before Katrina struck. But they quickly "learned we had a lot of other things to do," said Stuart Smolkin, the company's marketing strategy manager.

Now Intralox has set up a satellite assembly facility in Dallas and identified workers who will go there if another major storm threatens the New Orleans area. The company also has located a customer service group in Dallas to take orders. In addition, it has installed redundant hardware and software there and set up a fail-over system for routing phone calls to Dallas. "If we had to leave here, in a matter of hours we'd have all our major systems running," Smolkin said.

The day before Katrina came ashore, the IT staff at Tidewater Inc. drove two SUVs packed with an IBM AS/400 and Compaq servers from New Orleans to Houston, where the company had an office with high-speed Internet access in place. Tidewater had already made plans to have its IP addresses automatically fail over, and the relocated servers were up within 54 hours.

But that wasn't good enough for John Chaffee, IT director at Tidewater, which provides supply vessels and marine support services to the offshore energy industry.

Tidewater has since set up a second data center in Dallas, spending about $500,000 for new hardware that was installed there and at its existing IT facility. Data will be synchronized between headquarters and the backup facility over a network. If another storm forces the company out of New Orleans, "we will hardly lose a beat," Chaffee said. "We should be up in Dallas within a couple of hours."

Chaffee's IT staff was testing the data replication capabilities late last month as part of its goal of finishing the work by June 1. But Chaffee said the real "window of worry" is from Aug. 1 to Oct. 1 — the height of hurricane season. He isn't particularly concerned that a storm will put a bull's-eye on New Orleans again. Even so, he said he doesn't plan to take any time off during that period. ▸

Heavy Rotation of Storms Drives IT Action In Florida, Other States

Katrina, other hurricanes have far-reaching effects

BY SHARON FISHER, HEATHER HAVENSTEIN AND PATRICK THIBODEAU

Although Hurricane Katrina's devastation of the Gulf Coast got most of the headlines last year, for obvious reasons, other hurricane-prone areas were also hit hard by storms. And even IT managers whose operations weren't seriously damaged are taking last year's extraordinary hurricane cycle as a wake-up call.

"Katrina and many of the hurricanes that hit Florida last year alone sort of nailed this home for us," said Les Auerbach, director of computer services for the city of Gainesville, Fla. "It was evident that we needed to rethink, for continuity of business, how we were doing this."

Gainesville's upgraded disaster recovery plans include building a hardened data center that's capable of withstanding nature's fury. The facility will be built out of concrete and designed to be less susceptible to wind damage than conventional buildings are, according to Auerbach. "The idea is that if a hurricane does come through, this center is not going to move," he said.

Auerbach has met with architects to begin drawing up specifications for the data center, which is expected to be shared by the municipal government and a city-owned utility that provides water, gas and electrical services to residents. He said he doesn't have a firm schedule yet for the project or an estimated cost.

In addition, Gainesville wants to give its employees the ability to work remotely in case operations are disrupted by a storm or a pandemic, such as a flu outbreak. The IT staff is assessing how to proceed on that plan, Auerbach said, adding that the city will have to replace

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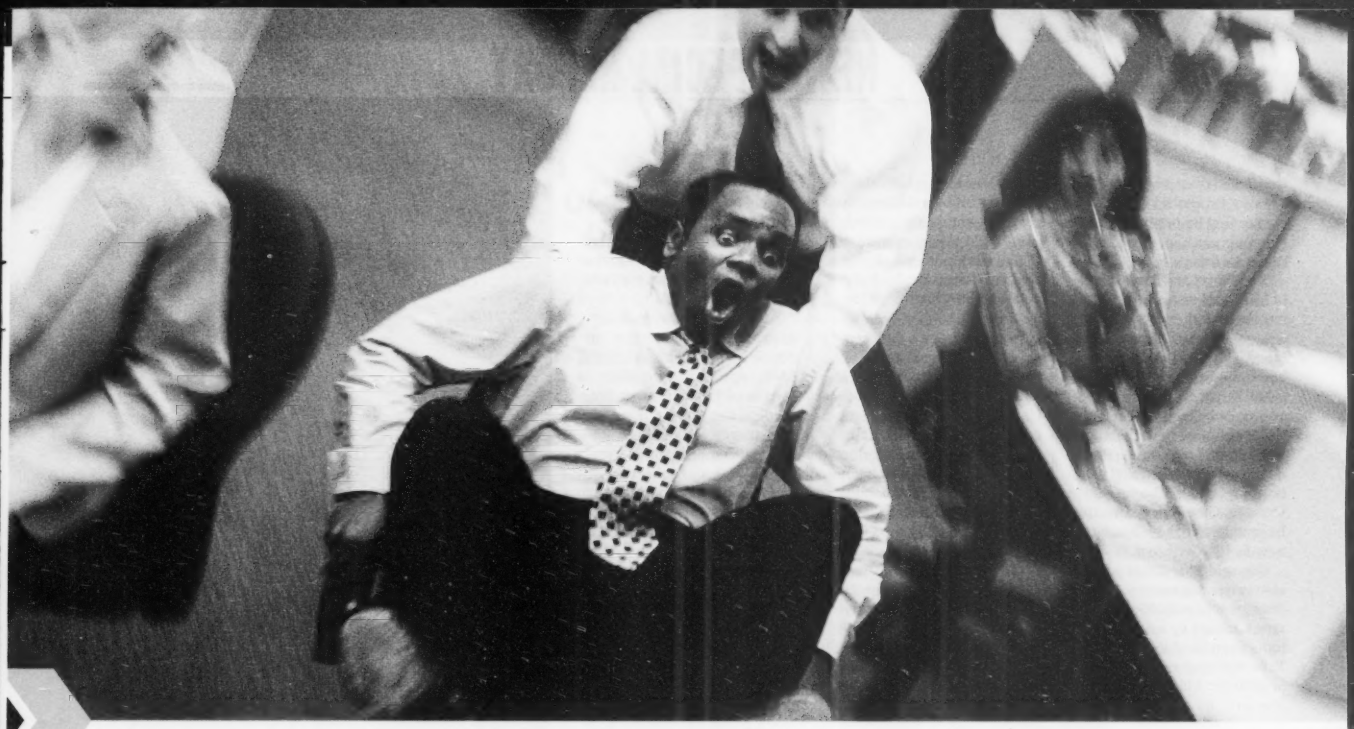
We figured, we're down for a couple of days, no big deal. When you're down for 12 days, it becomes a big deal.

JACK RAHNER, DIRECTOR OF IT AT ALPHASTAFF INC., ON THE COMPANY'S OUTAGES FOLLOWING HURRICANE WILMA LAST FALL



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Continued from page 8

desktop PCs with laptops and ensure that its network security tools can accommodate remote workers.

Blue Cross and Blue Shield of Florida is also setting up a hardened data center. Chris Gay, manager of disaster recovery at the Jacksonville-based medical insurer, said it is halfway through a move to a so-called Tier 3 data center that's designed to withstand a Category 5 hurricane. The changeover is scheduled to be completed by the end of October, Gay said, adding that he couldn't say how much the new facility will cost.

Gay said Blue Cross also is moving to reduce its reliance on tape backups by using tools from DoubleTake Software in Southboro, Mass., to mirror its servers to an unspecified hot-site facility, with backup copies kept in the insurer's own data center. "Shipping tapes concerns us," he said, citing the Health Insurance Portability and Accountability Act's data privacy regulations, as well as the need to access information in the event of a major storm or other disaster.

Stopgap Measures

Like Blue Cross, the office of the clerk of the circuit court for Florida's Hillsborough County is working to upgrade its data backup capabilities. Jeanne Harden, project manager for computer operations in the clerk's office, said that after seeing the damage caused by Katrina, she realized that neither a data center in downtown Tampa nor a second facility 11 miles from the coast would be safe if a similar storm struck.

"We don't feel comfortable at all," Harden said. "If this area gets hit by a Katrina, both my data centers are potentially gone, and there goes my data."

The clerk's office had stopped doing tape backups in favor of backing up information disk-to-disk between systems at the two data centers. But last week, it resumed weekly backups to tapes that will be shipped out of state. Harden said that's just a stopgap measure while she talks with remote hosting vendors about doing electronic backups to an out-of-state facility — a capability that she hopes to have in place by next month.

Alphastaff Inc., a payroll-processing firm in Fort Lauderdale, Fla., learned from an extended outage in the aftermath of Hurricane Wilma last year that its disaster recovery plan — which was based on systems being down for two days — needed to take longer disruptions into account.

"We figured, we're down for a couple of days, no big deal," said Jack Rahner, Alphastaff's director of IT. "When you're down for 12 days, it becomes a big deal. Ancillary services become not so ancillary."

For example, the company hadn't replicated its Great Plains accounting software, and state income and property taxes came due. This year, Alphastaff is adding more capabilities to its collocation facility in Atlanta and is installing additional equipment and applications there, including its accounting software.

Alphastaff also discovered "that not having a mail server was a huge hindrance" to continued operations, Rahner said. Although a mail server at the company's Atlanta facility remained up and running after Wilma, end users had trouble accessing it, he added. In an effort to avoid similar problems this year, Alphastaff has started using MessageOne Inc.'s e-mail management and continuity services.

Although Savannah, Ga., hasn't been hit by a major hurricane in more than a century, Katrina prompted the city's Memorial Health University Medical Center to step up its disaster recovery efforts. The medical center is setting up capabilities for replicating its electronic X-ray and patient records data to a data center in Atlanta, said Chris Leggett, Memorial Health's manager of technical services. She added that the replication process should begin within six weeks.

Other disaster planners are also beefing up the infrastructures that support their data centers: power systems; telephone and Internet connections; pumps; and even spare batteries for cell phones and laptops. "For communication, it was imperative that we stock up on extra batteries," said Jim Desjarlais, IT director for Lee County in southwest Florida.

In addition, IT organizations such as Lee County's are making arrangements to help one another if necessary. Desjarlais belongs to the Florida Local Government Information Systems Association, which has 140 members. Should he lose his data centers, several other counties in Florida have agreed to host his applications, he said.

Harold Schomaker, CIO for the city of Largo, Fla., is working through the same association to develop mutual IT assistance agreements that involve leasing space for backup systems in other data centers. "A lot of the cities that have sustained quite a bit of damage [from storms] are just getting to the point where they can start looking hard at doing this stuff," he said.

However, expanded disaster-recovery planning and outside help can only do so much in the face of an approaching hurricane. "Everybody's getting a little nervous at this time of year," Desjarlais said. ▸

"We don't feel comfortable at all. If this area gets hit by a Katrina, both my data centers are potentially gone, and there goes my data."

JEANNE HARDEN, PROJECT MANAGER FOR COMPUTER OPERATIONS, OFFICE OF THE CLERK OF THE CIRCUIT COURT FOR FLORIDA'S HILLSBOROUGH COUNTY

Hot-Site Approach Runs Hot and Cold With Users

THE DAY AFTER Hurricane Katrina rampaged through the Gulf Coast last August, Neal Hennegan, director of technology at Gilsbar Inc. in Covington, La., spent three hours walking a half mile up a tree-filled road in order to get to the storm-damaged home of the company's president.

Hennegan was motivated not just by concern for the executive's well-being, but also by the fact that the president was one of only three people at Gilsbar who were authorized to call SunGard Data Systems, the third-party insurance administration firm's IT hot-site vendor, and declare a disaster.

In addition, there weren't any working landline or cell phones within 50 miles. As a result, it wasn't until 3 p.m. on Wednesday, Aug. 31 – two days after Katrina struck – that Gilsbar was able to make a disaster declaration to SunGard. And then the company was thrown a curveball: Although Gilsbar had always run its disaster recovery tests at SunGard's Alpharetta, Ga., facility, it was assigned to a hot-site facility in Chicago – a 14-hour drive away.

In preparation for this year's hurricane season, Gilsbar has made some changes that are designed to help get its systems up and running again within 48 hours of a disaster. If a big storm is forecast, the company will pre-position an IT team in another location, such as Memphis, with a set of backup tapes, Hennegan said. Those workers will be authorized to declare a disaster and start recovery procedures at SunGard, he added.

Despite the challenges that Gilsbar faced in the aftermath of Katrina, Hennegan said SunGard's hot-site service "is fabulous for us." He also praised SunGard for helping with non-IT needs. "People came up with their families," he said. "Some of them didn't know what their home situation was, and they were emotional wrecks when they got to Chicago." SunGard made sure that everyone was fed and that activities were organized for the children, he said.

But not everyone shares Hennegan's view. For example, the series of hurricanes that hit the East Coast two years ago encouraged Greg Holdburg, manager of disaster recovery and business continuity services at S1 Corp. in Atlanta, to move away from SunGard as a hot-site vendor.

S1, a vendor of banking and financial services software, hosts systems for some of its customers and has service-level agreements with them requiring annual tests of its disaster recovery procedures. But Holdburg said that because of the heavy demand for hot-site space at SunGard's facilities after the hurricanes, S1 risked not being able to complete the mandated tests.

Consequently, the company decided to reopen its disaster recovery contract and call in other vendors to bid against SunGard. It ended up choosing Houston-based VeriCenter Inc., which proposed a hybrid hot-site/in-house solution that provided S1 with a dedicated 3,000-square-foot caged area at a data center in Dallas. S1 supplies its own equipment and can run tests whenever it wants, Holdburg said. "It's ours to do whatever we please with," he noted.

What's more, even after buying the IT gear, S1 expects to save $1.5 million over three years because of the switch, according to Holdburg. That is a result of both reduced hardware costs and the tendency of disaster recovery vendors to overprovision their facilities and then pass the costs on to customers, he said.

One caveat, though, is that users of a service such as VeriCenter's need to have trained staffers available to support their systems, Holdburg said.

The city of Tallahassee, Fla., is also considering dropping its SunGard hot-site service. "Right now, we will take our tapes, get on an airplane and head to Philadelphia, where a SunGard facility is located, said Don DeLoach, Tallahassee's CIO. But it may take longer than 48 hours to restore operations, and DeLoach said he wants a faster recovery process and the ability to get his IT employees out of harm's way as soon as possible.

"We want our data out of here," he said, adding that the city is looking at using Unisys Corp.'s Business Continuance SafeGuard 30m technology, which is designed to provide automatic fail-over of clustered Windows-based applications to a backup facility.

– SHARON FISHER AND PATRICK THIBODEAU

Red Hat Halts Development of App Server

BY ERIC LAI
NASHVILLE

At its annual Summit user conference here last week, Red Hat Inc. disclosed plans to halt development of its Red Hat Application Server (RHAS).

The move had been anticipated since Red Hat in mid-April announced plans to buy open-source application server provider JBoss Inc. for about $420 million. The company will support RHAS users over the life of their contracts, which span one year, it said.

Aaron Darcy, director of global strategic services, declined to disclose the number of RHAS users, but he said that they won't be rushed to migrate to JBoss. RHAS is based on the Jonas J2EE application server from the open-source ObjectWeb Consortium.

Raleigh, N.C.-based Red Hat also announced at the conference plans to create a community called 108 for developers seeking collaboration from open-source developers or guidance from Red Hat engineers. The company also said it will provide two internally developed testing tools to the open-source community and that it is revising the shipment schedule for Red Hat Enterprise Linux (RHEL).

Red Hat said the developer Web site, *www.108.redhat.com*, will be similar to rival Microsoft Corp.'s MSDN Web site for Windows developers. Although the site will host open-source code and projects, it doesn't directly compete with the Open Source Technology Group's SourceForge Web site, said Todd Barr, director of enterprise marketing.

A Useful Tool

Kevin Fox, a programmer and analyst at The Sherwin-Williams Co., said the mysteriously monikered 108 — Red Hat executives declined to reveal the origins of the site's name — should help him plan future rollouts of Red Hat.

"I don't have a crystal ball," he said. "I want to better know what features are going to be stable."

The $7 billion Cleveland-based paint manufacturer runs its Oracle databases and supervisory control and data acquisition applications on Red Hat Linux.

Red Hat officials outlined plans to release the company's internal tool, called Dogtail, for testing graphical interfaces, along with a suite of tools for testing nongraphical applications.

One Red Hat user who works at a Mississippi bank said his development team would welcome the availability of open-source automated testing tools for Linux applications. "We're mostly a Windows shop, including our quality assurance team," said the user, who asked that he and his employer not be identified. "If they have to test a Linux system, they don't know what they're doing."

Both applications, which Red Hat uses internally to ensure that third-party applications run on its Linux distribution, will be available under the General Public License, said Jay Turner, quality engineering manager at Red Hat.

Red Hat also disclosed plans to lengthen its release schedule for major versions of and updates to its Linux operating system. "We're slowing things down to cover customers who don't want to change so often," said enterprise marketing manager Nick Carr.

For instance, starting with RHEL 5's expected release in December, major versions will come out about every two years instead of the prior 18-month intervals, Carr said. Red Hat will release a beta of RHEL 5, which adds virtualization capabilities, to a limited set of partners and customers at the end of July, and a public beta in mid-September.

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AT DEADLINE

New Flaw Found in Windows Software

A new flaw found in Microsoft Corp.'s Windows software could be exploited to cause a denial-of-service attack on certain applications, although the bug isn't viewed as being severe. The flaw affects the Home and Professional editions of Microsoft Windows XP Service Pack 2, and four versions of Windows Server 2003: the Datacenter, Enterprise, Standard and Web editions. Microsoft said that it is investigating the flaw and that it isn't aware of any related attacks.

Motorola to Buy U.K. Firm for $193M

Motorola Inc. has agreed to buy mobile phone technology developer TTP Communications PLC for $193 million. TTP already supplies technology used in Motorola mobile phone products. Motorola said it plans to retain the 575 employees of TTP, which will continue to be based in Cambridge, England.

SMIC Plans $300M Plant Investment

Semiconductor Manufacturing International Corp., China's largest chip maker, plans to use a $300 million loan from a consortium of Chinese banks to expand production capacity at a manufacturing plant in Tianjin. The company did not offer details of its expansion plans for the plant, which uses 200-millimeter silicon wafers to produce chips. The plant upgrade is part SMIC's effort to reduce its reliance on DRAM chip sales.

IBM Unveils Tivoli Asset-Tracking Tool

IBM has launched software that can help companies deploying virtualized computing environments more easily bill internal departments or external clients for the resources they use. The Tivoli Usage and Accounting Manager is based on technology that IBM acquired from asset-tracking software company CIMS Lab Inc. in January.

ON THE MARK

HOT TECHNOLOGY TRENDS, NEW PRODUCT NEWS AND INDUSTRY BUZZ BY MARK HALL

MATTHEW FAULKNER

Cell Phone Security Nightmare . . .

. . . is looming. But CIOs can take actions to protect their end users. Victor Kouznetsov worries that as standards for handling mobile data become widely adopted by handset makers and cellular network operators, the security landscape for cell phone callers will become as dangerous as it is for PC users. Kouznetsov, a senior vice president at the McAfee Mobile division of security software vendor McAfee Inc. in Santa Clara, Calif., says that at least one security scam has already surfaced in which malware writers combined Java and Short Messaging Service code to trick end users into sending messages to a for-pay SMS operation. In the near future, Kouznetsov expects to see the rapid spread of mobile malware that is "conceptually similar" to what we currently dread getting on our PCs — viruses, worms, spyware and the like. To keep corporate data safe on end-user handsets, he advises that CIOs take four steps: Create a "walled garden," permitting only preapproved software to run on devices; install a malware detection tool on your phones; encrypt data that's being transmitted and, if possible, stored info; and ensure that you can lock or erase the data on devices if they're lost or stolen. However, Kouznetsov notes wryly that you probably won't be able to protect end users from the top reasons why people lose data stored on mobile devices, per a Swedish survey: They throw them in a rage or flush them down a toilet.

2009 The year cell phone sales hit 1 billion, per Gartner.

SaaS shrinks the software market . . .

. . . with each deal. Market research analysts may see a slowdown in overall software revenue growth as a result of IT's increasing adoption of software-as-a-service (SaaS) offerings. That's the contention of Jim Howard, CEO of Los Angeles-based CrownPeak Technology Inc., which uses the SaaS model. Howard argues that with each SaaS sale, "the annual revenue that could be recognized by the industry goes down." That's because such deals require far less cash upfront from users than if they pay in full for a perpetual software license. Also, comparing the strength of SaaS vendors and traditional suppliers on the basis of their annual revenue "is not an apples-to-apples comparison" because fees from costly customization and installation of software are missing from the SaaS side's balance sheets, Howard says. The number of customers or end users might be a better metric for comparisons, he adds.

HOWARD: Software market needs new metrics.

CIOs and CEOs finally find themselves . . .

. . . on the same strategy page. Bruce Barlag, CEO of Balanced Scorecard Collaborative Inc., a division of Palladium Group Inc. in Lincoln, Mass., draws that conclusion from a survey of 354 high-level executives that his firm commissioned earlier this year. CIOs and CEOs both ranked "business strategy execution" and "IT capabilities" high on a list of 13 "top of mind" issues. Barlag says he interprets the data as meaning that "the CIO is in line with what the CEO is thinking." He adds that much of the blame for keeping IT and business objectives off the same track in the past resides with executives other than CIOs. "It was less a failure of the CIO than the CEO, who did not articulate the strategy of the business," he says, adding that the problems were "compounded by other executives who did not prioritize their IT initiatives." But things are looking rosier, Barlag says, "because IT is now aligned with the business." Let's hope.

BARLAG: CIOs and CEOs in sync.

Don't clog your corporate e-mail . . .

. . . system with large files. "The problem of sending big files is bigger than you think," says Jurgen Edholm, CEO of Accellion Inc. in Palo Alto, Calif. Indeed, many Internet service providers refuse to handle files that are over 10MB. But Edholm says end users can transmit huge files via Accellion's Courier Secure File Transfer Appliance, which is being upgraded this week with a Version 5.0 software release. Users can store files and even entire folders on a Courier appliance and then send messages with built-in links so recipients can download the information. With the software update, Courier can handle folders that are up to 20GB in size. Pricing for the appliance starts at $3,500.

Courier now handles 20GB folders, says Accellion.

Take a good look at your . . .

. . . business data. With so much data for analysts to sort through, they need "a living, breathing picture on top of a database," says Kevin Brown, vice president of marketing at Tableau Software Inc. in Seattle. Tableau's eponymous visual analytics tool connects to a variety of data sources and lets users drag and drop data elements to a worksheet, where they are instantly rendered into charts, graphs and other visual representations. Version 2.0 ships next week. Pricing starts at $999.

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BRIEFS

CA Delays Issuing Q4, Full-Year Results

CA Inc. has delayed issuing its final fourth-quarter and 2006 full-year results and restated its third-quarter results, partly because of the impact of its new sales commission plan. The move was not expected by analysts. CA said it may have to further adjust its third- and fourth-quarter results as well as its full-year results, pending an ongoing internal review into the sales commission plan.

Microsoft Splits Sinofsky's Duties

Microsoft Corp. has created two posts that split the duties of Steven Sinofsky, the former head of its Office engineering team who now leads the Windows unit. Antoine Leblond was named corporate vice president of the new Office productivity applications group. Kurt DelBene was appointed corporate vice president of the new Office business platform group, which builds SharePoint, Project, Groove and content management products.

AMD Seeks to Protect PC Vendors' Secrets

Advanced Micro Devices Inc. has asked a Delaware judge to protect the trade secrets of PC vendors so they can testify in the company's long-running antitrust lawsuit against Intel Corp. The move is part of a June 2005 lawsuit in which AMD claims that Intel has used its overwhelming x86 microprocessor market share to keep computer makers from buying AMD chips.

CollabNet May Open Its Source Code

CollabNet Inc. is considering whether to put some of its core development software under an open-source license or a dual-licensing model to boost its market share, said President and CEO Bill Portelli. Though he wouldn't discuss firm plans, Portelli said opening the source code would help the company boost sales of its services.

Ruiz: Chip Advances Not Held Back by Technology

But AMD's CEO sees increasing need to balance performance, power usage

BY PATRICK THIBODEAU

THE AWARDS ceremony for the 2006 Computerworld Honors Program is being held tonight in Washington. Each year, the program recognizes organizations for using technology to promote social, economic or educational advancements. In addition, individual awards are given to an IT user and vendor. The winner of the 2006 Morgan Stanley Leadership Award for Global Commerce is **Hector Ruiz**, chairman and CEO of Advanced Micro Devices Inc. Ruiz, who was recently appointed to the President's Council of Advisors for Science and Technology, spoke with *Computerworld* in advance of the ceremony. Excerpts follow:

Analysts say AMD's success with Opteron will help ensure competitive pricing and accelerate the pace of innovation in the chip market. How do you stay competitive with Intel on technology? First of all, we're a really focused company, and we made a decision to throw all our energy into x86. There is no other company in the world doing that. We also made a decision a few years back that intimacy with customers was going to be critical to us for leveraging R&D effectively. We couldn't afford to kind of play around and hope we could cram down the customers' throats our great ideas. I think that is the answer to how we can compete with 10% of the money that our competitor has.

The other side of that [question] — will it lead to innovation? I think having two strong companies competing will lead to significantly better innovation. Intel has announced some improved products [that are expected] later on this year. Frankly, I believe they would not be doing that if we had not been as successful.

How far can multicore development reasonably go on the x86 platform? Quadcore chips are expected, and eight-core ones later on. It really will be driven by what the customers will benefit from. We're going to demonstrate, along with our competitors, that four cores is a done deal and eight cores is not a technology challenge. Technically speaking, frankly, I don't see why you couldn't put 100 cores on a chip.

Power consumption is becoming a huge issue in data centers. At some point, do you see users making trade-offs between the performance and power consumption of microprocessors? I most definitely do. People are going to want to optimize the balance between performance and power consumption, so I think performance per watt will become a much more meaningful metric than just raw performance or one-core power consumption alone.

Do you see virtualization as a potential threat to how you differentiate your products? I see virtualization as a great opportunity for us as well as for the customers. Today, when we have the possibility of putting in the data center or in the back office this huge capability on clusters of computing power, and at very low cost and very low energy consumption, then it really opens up the possibility — because of virtualization — to have a much more intelligent deployment of clients that will also optimize performance per watt. Because of the more centralized nature of that approach, you can have much better control over cost, security and a number of other things.

What would you like to accomplish as part of the President's Council of Advisors for Science and Technology? The field of opportunity is so big that it's a challenge enough just to decide what do we focus on. It has to be focused; otherwise, it gets to be a giant dissertation on science and technology. What we've chosen to do so far is to really focus on trying to anticipate the trends in science and technology and provide the president with some understanding of the priorities that we think this country needs to have to ensure a long-term competitive position. It's not addressing a specific technology.

Do you have concerns about the ability of the U.S. to maintain leadership in technology and basic scientific research? The biggest concern I have has to do with education. It is one of the most, if not the most, significant challenges that we have to address: the educational shortcomings that we have in this country. ▸

VMware to Unveil Upgrades, Bundles

BY PATRICK THIBODEAU

VMware Inc. today is expected to unveil bundles of several upgraded server and software products that change how the company packages its virtualization tools. Among the upgrades in the new VMware Infrastructure 3 suite is support for four-processor machines.

The announcement of the new offerings, which have been in beta-test mode since last October, marks the end of VMware's high-end ESX Server as a separate product. It will instead be part of multiple VMware Infrastructure 3 suites.

VMware will offer several packages, ranging from an ESX Server and a VirtualCenter agent priced at $1,000 to a $5,750 suite that includes most of the company's offerings.

Raghu Raghuram, vice president of platform products at the EMC Corp. subsidiary, said most VMware users have bought the server and management tools together.

The systems also upgrade memory support from 3.6GB to 16GB, which is important to Edward Baldwin, senior network engineer at Enbridge Energy Co. in Houston, a beta-test site for the upgraded products.

He used VMware to consolidate physical servers just over a year and a half ago, reducing 45 physical servers to 10 physical servers running 120 virtual machines in production.

Baldwin said the increased processor and memory support will allow him to shift Oracle and SQL databases running on dedicated four-way processor systems to a virtual environment. The upgrades also offer the opportunity to use management tools to move live applications to a different physical box without interruption. "Users never see downtime, and it's allowed us to do maintenance in the middle of the day" instead of at night or over the weekend, he said.

Brad Day, an analyst at Forrester Research Inc., said most customers want an integrated package. "When most people buy VMware, they are buying the whole stack," he said. ▸

California Election to Provide E-voting Paper Trail

First vote requiring compliance with new state law

BY MARC L. SONGINI

California tomorrow will become one of the first states to require that all voting machines produce a paper audit trail that can verify the accuracy of a tally.

The audit trail is required for Tuesday's primary vote to ensure that election officials adhere to a state law passed in 2005. The statute requires that the ballots of 1% of the votes cast in each precinct be manually tallied to ensure the accuracy of e-voting systems.

The new law expands on an earlier statute that requires voters using optical scan devices to also register their votes on paper so they can be audited. Now, all machines, including touch-screen systems, must compile a paper trail of votes.

A spokeswoman for California Secretary of State Bruce McPherson said that 37 of the state's 58 counties use touch-screen systems.

"Every voting system in California will have a paper trail in 2006," the spokeswoman said. "Voters will have the opportunity to verify their vote via a paper record, which verifies that their vote cast was indeed the vote that was recorded."

As California has moved to implement the new law, it has also been working to comply with the federal Help America Vote Act, which requires the establishment of a statewide voter registration database and that every voting precinct have a handicapped-accessible e-voting system. "These are sizeable mandates, and it is no easy task, but it is also a duty we do not take lightly," McPherson's spokeswoman said.

San Diego County already successfully completed an election — a special election held on April 11 — with a paper trail for every vote cast, said Mikel Haas, registrar of voters.

Haas noted that the statute doesn't require that voters receive personal paper confirmation of their vote. It only requires that a printed record be retained in the voting machine for use in audits.

The latest California effort is placating some critics of e-voting, who have argued that touch-screen technology is open to tampering and fraud.

"California's June primary ushers in a new era of accountability and transparency in state elections," said Kim Alexander, president and founder of the California Voter Foundation, a nonprofit voting-technology advocacy group, in a statement last month. "Election officials rely on proprietary software produced by private companies to count the votes," and a paper trail can ensure that election audits are possible, said Alexander.

Others, like Brad Friedman, whose BradBlog.com Web site covers electronic voting issues, say the California measure remains too weak. Friedman describes the audit of 1% of precincts as a "ridiculously" small sample.

"I think it's clear that paper trails are the absolute minimum requirement for valid and accountable elections at this point," he said.

California state Sen. Debra Bowen, a Democrat who is running in a primary election for the right to take on McPherson, a Republican, for the secretary of state post, agreed that the new audit requirements remain inadequate. For example, some counties aren't including absentee ballots in the manual vote requirement, which she called a "huge loophole."

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BRIEFS

StarOffice Gets Hit With First Virus

The first virus affecting StarOffice was detected last week, but experts say that so far it isn't being used to infect computers. Kaspersky Lab said the virus uses macros to attack the Sun Microsystems Inc. office suite. The bug does not yet pose a threat, since it is a proof-of-concept virus, meaning that it was written to prove it could work but is not yet being used maliciously, Kaspersky said.

Symantec Patches Software Flaw

Symantec Corp. has patched a widely reported flaw in the English versions of its corporate antivirus software. The flaw could be exploited by hackers to run unauthorized software on unpatched PCs. The problem affects Versions 3.0 and above of Client Security, and Versions 10 and above of Antivirus Corporate Edition.

Ballmer Defends Microsoft R&D Plans

Microsoft Corp. CEO Steve Ballmer has defended the software vendor's plan to boost its research and development budget by $2.6 billion next year – a move that Wall Street analysts fear will lower its earnings potential and result in lower returns to shareholders. Ballmer told analysts at the Sanford C. Bernstein Strategic Decisions Conference in New York that Microsoft has proved in the past that such investments pay off in the long term.

Oracle Buys Mass. Software Vendor

Oracle Corp. has agreed to buy Demantra Inc., a maker of business applications. Terms of the deal, expected to close later this month, weren't disclosed. Waltham, Mass.-based Demantra's product line includes analytics tools that help large businesses forecast demand for their products, as well as applications for planning sales and promotional activities.

Continued from page 1

VA Security

ans discharged since 1975. The theft took place on May 3, but Nicholson wasn't told of it for nearly two weeks, and the VA didn't publicly disclose the breach until May 22.

Security analysts last week said they view Nicholson's actions as a broad sign of the importance that the VA is assigning to information security following the breach. But they questioned the efficacy of some of the steps he has taken.

For instance, the choice of former Arizona county prosecutor Richard Romley for the special adviser's role that Nicholson has created is something of a surprise, given Romley's legal background, said Alan Paller, director of research at the SANS Institute, an IT security and training firm in Bethesda, Md.

"If you're going to change security, bring in a security person," Paller said. "It doesn't make sense to bring in a prosecutor unless you've decided that the people you're working with are all criminals."

Reviewing internal security processes and changing personnel are unlikely to make a big difference at the VA if the agency doesn't devote adequate funding to security initiatives, said David Jordan, chief information security officer for the government of Virginia's Arlington County.

"My guess is somewhere down in the dirt at the VA is a security officer who said, 'We need to secure our PCs, and this is the way we can do it,' and he never got the funding to do it," Jordan said. "It's inconceivable to me to think that an information security officer in a federal agency of this prestige wouldn't have known what to do" to prevent the kind of breach that the VA suffered.

Ongoing Issues

Gartner Inc. analyst John Pescatore noted that the VA appears to have had long-standing security problems, considering that the agency has received failing grades on four of the past five computer-security report cards issued annually by the House Committee on Government Reform.

"Somebody should certainly get the blame for this," Pescatore said. "But when you've had problems for such a long time, you can never be sure if the people you're firing are the right ones."

Security Fixes

VA Secretary R. James Nicholson announced the following:

All employees will be required to sign a statement confirming that they understand the agency's security training and the consequences of not complying with internal policies.

Supervisors must submit lists detailing the jobs of workers who access sensitive data, plus individual justifications for the access, the type of data being accessed and the method for doing so.

The agency has begun implementing the procedures necessary to dismiss the data analyst who violated VA policy by taking home data that later was stolen in a burglary.

Nicholson said that as a special adviser, Romley "will provide a critical outsider's perspective" as the VA works to reform its security policies and procedures. Romley, who served in the Marine Corps in Vietnam and was the Maricopa County Attorney in Arizona from 1989 to 2004, will report directly to Nicholson at the VA. He is responsible for evaluating its security procedures and recommending ways to improve them.

In addition to bringing in Romley, Nicholson said he has set up a task force of senior VA officials to review all aspects of information security at the agency. One of its first jobs, due to be completed by June 30, is to document all workers who require access to sensitive data. To begin the process, Nicholson ordered all supervisors at the VA to submit lists of their subordinates who can access such information and to include details such as the reasons why individual workers need to see data and the methods by which they access it.

Any review of information security practices at the VA should examine why the agency still doesn't mandate that sensitive data be encrypted by end users, said Howard Schmidt, a former White House cybersecurity adviser and corporate chief security officer who now is an independent consultant in Seattle.

"These sort of compromises are going to happen no matter what you do or what policies you have in place," Schmidt said. So any change that fails to include mandatory encryption of sensitive data is less than complete, he added.

In another development, 30 organizations that are part of the Consumer Coalition for Health Privacy called for Mike Leavitt, secretary of the U.S. Department of Health and Human Services, to order a review of the VA's compliance with the privacy mandates of the Health Insurance Portability and Accountability Act.

Meanwhile, the House Committee on Government Reform asked the VA to provide it with an update on the progress of the agency's security reforms at a hearing that is scheduled to be held on Thursday.

Loan Firm, University Report Security Breaches

JUST DAYS after the VA disclosed its data compromise, two other organizations reported similar incidents – the latest in a long line of security breaches that have put personal information at risk.

Texas Guaranteed Student Loan Corp., a Round Rock, Texas-based nonprofit organization that administers student loans, last week announced that an outside IT contractor had lost an unspecified piece of equipment containing the names and Social Security numbers of approximately 1.3 million borrowers.

The loss was reported to the company on May 26 by Hummingbird Ltd., a Toronto-based software vendor that had been hired by Texas Guaranteed to develop a document management system.

Kristin Boyer, a spokeswoman for Texas Guaranteed, said the company had followed recommended security practices by encrypting all the information before transmitting it to Hummingbird. The data was then unencrypted by a Hummingbird employee and stored on equipment that appears to have been lost, Boyer said.

Hummingbird CEO Barry Litwin refused to disclose the type of media the information was stored on or how it was lost. But he said that the data had been password-protected at multiple levels, making it all but inaccessible to unauthorized users. "We believe that the chance of anybody actually getting at the data is minimal," Litwin said.

Meanwhile, Sacred Heart University in Fairfield, Conn., announced May 24 that one of its computers had been hacked, resulting in the potential compromise of the names, addresses and Social Security numbers of 135,000 alumni and prospective students.

The breach was discovered on May 8, when the university's IT staff noticed "an anomaly" during its daily system maintenance work, said Funda Alp, a spokeswoman for Sacred Heart. A rootkit program installed on the server – apparently by an outside attacker – caused one of the computing services running on that system to crash, Alp said.

Preliminary investigations showed that the attacker appeared to have the expertise to access the information stored on the server, although Alp said it isn't clear if that actually happened. In addition to the personal data, the compromised server contained credit card information for 103 individuals, she said.

– JAIKUMAR VIJAYAN

Correction

The coverage of *Computerworld*'s Mobile & Wireless World conference in last week's News section omitted a credit for the photos that ran with the stories. The photos were taken by Marc Auster.

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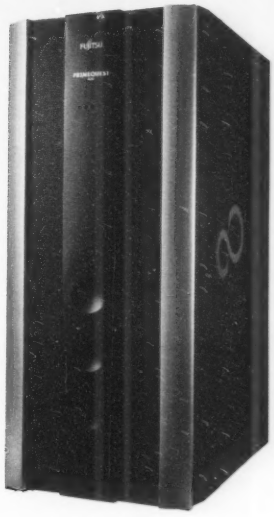

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GLOBAL DISPATCHES An International IT News Digest

U.S., Europe 'Certain' of Continued Data Sharing

BRUSSELS

EUROPEAN and U.S. officials last week downplayed fears that airline flights from Europe to the U.S. might be disrupted at the end of September, when an agreement on the sharing of personal data about passengers is scheduled to expire as the result of a new court order.

The European Court of Justice in Luxembourg ruled that the 2-year-old agreement to share with American authorities information about passengers flying to the U.S. is illegal. However, it temporarily left the agreement in place, giving the European Commission and the 25 member countries of the European Union until Sept. 30 to come up with another solution with the U.S.

"We need continuity," said Franco Frattini, the European commissioner for justice and home affairs. Frattini added that he is "certain" an agreement can be reached to avert a crisis in trans-Atlantic travel.

"I am confident that we will find a solution that will keep the data flowing and the planes flying," agreed Stewart Baker, an assistant secretary at the U.S. Department of Homeland Security.

Despite those assurances, resolving the matter "is not an easy situation," said Chris Kaner, a lawyer in the Brussels office of Hunton & Williams LLP who focuses on data protection issues. "The court decision throws everything up for re-examination."

The May 2004 agreement to share names, addresses, travel schedules and other passenger records was signed in response to the Sept. 11, 2001, terrorist attacks in the U.S. But the European Parliament opposed the pact and appealed to the Court of Justice, arguing that the U.S. doesn't have data protection rules that are equivalent to the ones in Europe.

■ PAUL MELLER, IDG NEWS SERVICE

Loss at Vodafone Leads To Layoffs, IT Changes

NEWBURY, ENGLAND

VODAFONE GROUP PLC last week reported a massive loss for the fiscal year that ended March 31 and announced restructuring plans that include an overhaul of its IT organization. Nonetheless, the company said its business operations continue to perform well.

The loss did prompt the mobile network operator to make moves to cut costs, including plans to eliminate about 400 jobs at its corporate headquarters here, mostly in marketing. Vodafone employs about 60,000 workers worldwide.

The company also said it plans to centralize its IT operations in order to reduce the number of its data centers and consolidate systems administration activities. In addition, it expects to move many IT functions from Europe to locations with cheaper labor costs.

Vodafone's fiscal-year net loss of £17.2 billion ($32.2 billion U.S.) included one-time charges of £23.5 billion ($44 billion) from write-downs that reduced the asset value of business operations in several countries. The company said revenue increased 10% year over year, to £29.4 billion ($55.1 billion).

■ NANCY GOHRING, IDG NEWS SERVICE

China Enacts Internet Copyright Regulations

BEIJING

INTERNET PIRATES will face fines of up to 100,000 renminbi ($12,500 U.S.) for unauthorized use of copyrighted material on the Internet under new Chinese regulations.

Starting July 1, uploading or downloading copyrighted material from the Internet will require the copyright holder's permission, the state-run Xinhua News Agency reported last week. The new regulations also ban the use, production or importation of devices capable of evading copyrights.

U.S. industry groups such as the Business Software Alliance, the Motion Picture Association of America and the Recording Industry Association of America have long pressured the Chinese government to improve its record on fighting the use of pirated software and media.

However, "there is serious question as to whether the government will be able to enforce [the regulations] in any meaningful way," said David Wolf, CEO of Beijing-based consulting firm Wolf Group Asia.

■ STEVEN SCHWANKERT, IDG NEWS SERVICE

GLOBAL FACT

44%

Percentage of the U.K.'s population without home access to the Internet.

SOURCE: POINT TOPIC LTD., LONDON

Data Thieves Target German Speakers

MOSCOW

SPAM E-MAIL containing a password-stealing Trojan horse program surfaced last week, using a German-language pitch that claimed that an attached file was an official update to Microsoft Corp.'s Windows.

The attached malware is a Trojan called Sinowal that was first detected last December, said Roel Schouwenberg, a senior research engineer at antivirus software developer Kaspersky Lab in Moscow. The malicious code is programmed to try to harvest username and password information for certain banking Web sites in Europe, he said.

Schouwenberg described Sinowal as a type of "man-in-the-middle" malware. He said that even if an end user starts a Secure Sockets Layer transaction with a bank, the Trojan can insert HTML code that causes a pop-up window to open that asks for a username and password.

■ JEREMY KIRK, IDG NEWS SERVICE

Singapore to Upgrade, Unify E-gov Systems

SINGAPORE

SINGAPORE OFFICIALS last week announced plans to spend 2 billion Singapore dollars ($1.3 billion U.S.) to overhaul the country's e-government systems in order to provide citizens with easier online access to services and data.

Government agencies in Singapore already offer most of their services over the Internet. But "we have to move beyond bundling information and services at the front end to re-engineering processes at the back end," said Raymond Lim, second minister for finance and foreign affairs.

The five-year improvement plan, called iGov2010, will integrate systems to provide access to most data via a single Web site, according to Lim.

He said the plan will also improve online access for users without personal Internet access by increasing from five to 25 the number of CitizenConnect centers, which offer free Internet access and assistance.

■ SUMNER LEMON, IDG NEWS SERVICE

Compiled by Mike Bucken.

Briefly Noted

Dell Inc. last week opened a 55,000-square-meter factory in Xiamen, China, doubling its manufacturing capacity in the country. The facility will produce computers for customers in Japan, South Korea and Hong Kong. Dell's other Chinese plant, also located in Xiamen, makes systems that are sold within China itself.

■ STEVEN SCHWANKERT, IDG NEWS SERVICE

The **Taiwan Semiconductor Industry Association** said that chip sales by Taiwanese vendors climbed 28% in this year's first quarter to 307 billion New Taiwanese dollars ($9.6 billion U.S.). Chip makers based in Taiwan sold devices worth 240.7 billion New Taiwanese dollars ($7.5 billion) in the same period last year, according to the trade group.

■ DAN NYSTEDT, IDG NEWS SERVICE

Accenture Ltd. last week announced the opening of a facility in Warsaw that will offer business process outsourcing services in more than a dozen European languages. Hamilton, Bermuda-based Accenture said the BPO center will eventually employ as many as 1,000 people and provide services in areas such as finance, accounting, supply chain management and human resources.

■ NANCY GOHRING, IDG NEWS SERVICE

Philippine Long Distance Telephone Co. in Makati City said it has acquired New York-based SPI Technologies Inc. as part of an effort to become the largest provider of business process outsourcing services in the Philippines. Terms of the deal weren't disclosed. SPI was founded in the Philippines in 1980 and moved its headquarters to New York last year.

■ COMPUTERWORLD PHILIPPINES

Tata Consultancy Services Ltd. will offer a program to help businesses migrate to SAP AG's Web-based applications, under an agreement announced last week at SAP's European user conference in Paris. The agreement calls for Mumbai, India-based Tata to market integration and migration services to users that are adopting SAP's enterprise services architecture.

■ JOHN BLAU, IDG NEWS SERVICE

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Tivoli Chief Expects CM Databases to Cut IT Costs

BY MATT HAMBLEN

IBM last week started shipping its Change and Configuration Management Database, along with three Process Manager tools. In an interview with Computerworld *late last month,* **Al Zollar**, *general manager for IBM's Tivoli software unit, talked about the upcoming releases and IBM's long-term management software plans.*

Q&A

How can the new products ease the job of IT managers? The specifics in the announcements are important to the IT management vision, which is about being able to improve the quality, efficiency and service-level attributes of systems, as well as improving labor productivity and automating systems.

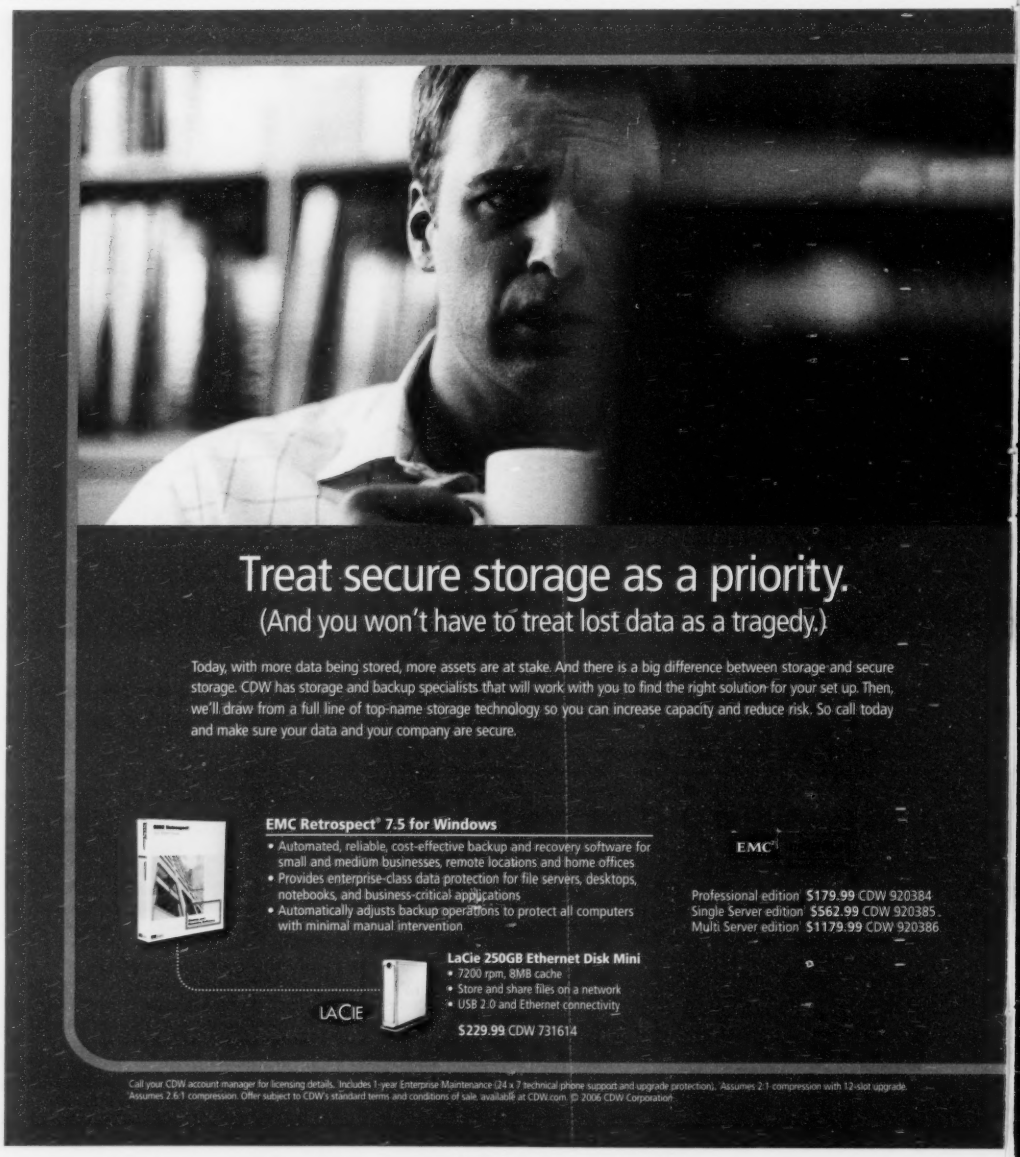
What is the core value of these products to IT managers? We estimate, through data from IDC, that $30 billion worldwide will be spent on software for infrastructure management in 2008. The labor required for IT operations will be about $325 billion globally at the same time. So this is a big area in IT that requires automation. We see the ratio of labor to assets as extreme.

How do you separate the new IBM Configuration Management Database from the hype that has long surrounded the technology? The CMDB is an important integration concept. When we looked at this, we saw this as a master data-management problem.

But in a major system, the data on the configuration of an infrastructure exists in many repositories, really in maybe hundreds of repositories. So we've talked about a federated database approach.

Do all vendors and users have to agree on this approach to make it work? We are working on sending a specification to a standards organization to allow federation of configuration data. We are working [with several vendors to create] a new interoperability specification to enable customers to federate and access information from multivendor IT infrastructures.

What are IBM's long-term plans for management software? We have been talking about autonomic computing for the past five years. It's about how the technology should be self-managing. Also, you really want the overall IT service delivery function — the IT operations group — to be autonomic and to run on business goals and policies in support of the business service. People have really responded to this. ▸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Hospitals Expand Videoconferencing

BY MATT HAMBLEN

Videoconferencing has boosted the efficiency of speech and language interpreters at two public hospitals in the San Francisco area, where patients speak 35 different languages.

Three months ago, the two hospitals — Alameda County Medical Center in Oakland and San Francisco General Hospital — began work on a $1.5 million initiative known as the Video Medical Interpretation (VMI) Project to link their respective systems in order to improve efficiency and reduce costs.

More than half of the patients at both hospital systems have limited English proficiency, so the health care centers employ in-house interpreters to translate doctors' orders and medication regimens.

Trial videoconference communications between facilities run by the two hospitals, at distances of up to 50 miles, have started in recent weeks, officials said. "The initial findings are encouraging," said Bruce Occena, a project consultant at the Health Access Foundation in Oakland, which is working on the project.

Savings Expected

Gloria Orme, a registered nurse and director of operations, primary care, patient advocacy and interpreter services at San Francisco General, estimated that the two hospitals combined save at least $420,000 annually in personnel costs with the current system.

San Francisco General installed its videoconferencing system last year, she said.

The Alameda hospital system began installing its videoconferencing system in 2003, with networking gear, videoconferencing cameras and monitors set up in several facilities. That project cut the average time an interpreter spends with patients from 37 minutes to 17 minutes, said Janice Chin, director of interpretation services at Alameda and program manager for the VMI Project. Previously, interpreters had to drive from a base facility to Alameda hospital buildings, Chin said.

Although there were some initial doubts, several of the interpreters have said the system has improved their jobs.

"When I first heard of VMI, I said, 'Oh my God,' but I was surprised the very first time and [saw] this [system] is only a monitor," said Maria Barajas, a speech interpreter at San Francisco General. "Patients are not afraid and quickly adapt."

The systems in both hospitals use Cisco Systems Inc. routers, switches and IP phones, and Tandberg 1000 MXP videoconferencing systems from Tandberg ASA in Lysaker, Norway.

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DON TENNANT

Veterans Affair

ORDINARILY, I'm not bothered by letters from readers who lambaste me for something I've written or for something else that's appeared in *Computerworld*. I am a firm believer that the spark of truth comes from the clash of differing opinions, so I highly value any opinion a reader expresses, regardless of what he says or how he says it. I appreciate those letters way too much to be bothered by them.

I have to admit, however, that a letter I received from a reader last week did trouble me.

DON TENNANT is editor in chief of *Computerworld*. Contact him at **don_tennant@computerworld.com**.

The letter was in response to the editorial cartoon we ran in last week's issue, which was inspired by our lead story on page 1 about the massive data theft suffered by the U.S. Department of Veterans Affairs. The cartoon showed the Tomb of the Unknowns at Arlington National Cemetery with the caption, "The only vets not worried about identity theft."

"I was shocked to come across a cartoon making light of the VA security breach by using the Tomb of the Unknown Soldier," the reader wrote. "Our war veterans, especially those who made the ultimate sacrifice, deserve much, much better. To print this tasteless attempt at humor [at] all is shameful, and to print it on Memorial Day itself is beyond the pale."

This is the only letter I received that expressed that view, but I was bothered by it simply because I'm concerned that there are other readers who didn't write but who also feel that the cartoon was a disservice to our veterans. So it is important to me that the matter be publicly addressed.

As I explained in my response to the reader, the cartoon was not intended to be at all humorous. Editorial cartoons are illustrations that provide commentary on a particular issue. Humor is often used to convey the message, usually with some sort of visual metaphor. But the really poignant ones aren't funny. They may be witty or satirical, but they don't aim to make you laugh.

It's essential that any readers who saw the cartoon as distasteful understand that the responsibility for its appearance in *Computerworld* ultimately rests with me. That being the case, I'm compelled to share some information about my own background to help explain why I approved the cartoon for publication.

My dad devoted his entire career to the U.S. Army. He served in Okinawa and was buried with full military honors in a national cemetery in Alabama. As I write this, my son, an officer in the U.S. Navy, is deployed on a destroyer in harm's way. I served in harm's way in the U.S. Air Force. I was honored to receive the Air Medal twice for "meritorious achievement while participating in aerial flight" during the Vietnam War. And yes, I am among the 26.5 million veterans whose personal information was stolen.

This entire matter is one I personally take quite seriously, so it frankly never occurred to me that the cartoon would be construed by anyone as an "attempt at humor." I feel strongly that what was depicted in the cartoon was respectful of our veterans. I believe my dad would agree.

That said, the writer of that letter and I do share one overarching sentiment. As far as I'm concerned, no matter what we do, or how poorly or well we do it, our veterans still deserve much, much better. That, in fact, is the message the cartoon was meant to convey. ▸

Don Tennant

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MICHAEL H. HUGOS

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WE'VE BEEN doing this agility training for a couple of months now. Training is fine, but the reason you're here is to make it happen in the real world. So let's have a postmission debriefing on an actual agility mission I just completed. Listen up. There's a test at the end.

I was working with a nationwide restaurant chain. It needed to improve its supply chain, which delivers millions of dollars' worth of food products to its restaurants every day. Its regular IT organization had its hands full keeping current systems running and didn't have any extra bandwidth for other projects. The company turned to the Agility Corps and asked if we could get something done fast. They gave us just a few weeks and a budget so small you could almost slip it past a sharp-eyed accountant on a creative expense report.

MICHAEL H. HUGOS is a CIO at large, author and speaker. He is also a member of the 2006 *Computerworld* Premier 100 IT Leaders class. His books include *Essentials of Supply Chain Management, 2nd Edition* and *Building the Real-Time Enterprise: An Executive Briefing* (both published by John Wiley & Sons). He can be reached at **mhugos@yahoo.com**.

This was an opportunity to show what the Agility Corps could do — a high-visibility mission with hardly any time or money. Sound like fun? If it does, you're in the right place. You might have a real talent for agility.

The goal was to increase sales and reduce costs by better matching inventory with demand. The company has a big opportunity to increase sales if it has enough products where they are selling well. And it can reduce costs if it can avoid having excess products where they don't sell so well.

In addition to yours truly, the agility team consisted of a senior system designer, a senior planner and a business analyst, the latter two provided by the company. I had expertise in joint application design and process mapping. My senior system designer was a master of data modeling, system prototyping and object-oriented programming. The two team mem-

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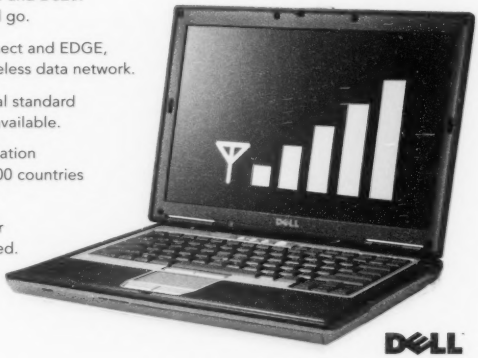

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INTEL AND CINGULAR WIRELESS are proud to once again co-sponsor the special supplement profiling the winners of Computerworld's "Best Practices in Mobile & Wireless" Awards Program.

This year's innovators stand out as business-focused technology leaders who used real-time mobile and wireless technology to create tangible, measurable business value. We hope that these success stories will inspire others to assume leadership in their industries by forging wireless links among their employees, systems, assets and customers.

As we have seen with past Best Practices awards, the 2006 winners represent a variety of industries. Each offers proof that the use of mobility and wireless data continues to expand beyond traditional e-mail, messaging, departmental functions and field service applications. These companies have transformed business models and streamlined core business processes while unlocking access to data and enhancing the value of business information within their organizations and enterprises.

COMPUTERWORLD MOBILE & WIRELESS WORLD
Best Practices IN MOBILE & WIRELESS
AWARDS PROGRAM

Organizations are deploying these solutions because ROI is achievable, the opportunity for market differentiation is real and the cost of falling behind is prohibitive. Not only are mobile and wireless solutions viable (as seen in the examples to follow), but there is a competitive advantage for those who use them wisely and creatively. The only limit is your imagination and commitment.

To all readers of this special supplement, we encourage you to consider the advantages of wireless mobility today. We believe that, like the attendees of Computerworld's Mobile & Wireless World conference, you will conclude that there is a passion for "best practices" and tremendous pride associated with being recognized for successful IT implementations.

Congratulations to Award recipients and those recognized as finalists in this year's program. Thank you to all the IT professionals, public relations firms/agencies and others who participated in the program by submitting a record number of case studies for evaluation. We also acknowledge and extend special thanks to the industry leaders, experts and practitioners who served as judges, and who had the daunting task of selecting winners from an exceptional field of innovators.

Jeff Bradley
Vice President, Business Data Services
Business Markets Group
Cingular Wireless

John N. Johnson
Vice President & CIO
Intel Corporation

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With such a large, geographically dispersed and mobile field sales force, Primerica was in need of a solution to automate the writing and processing of between 30,000 and 35,000 life insurance applications monthly.

MONTHLY CRUNCH TIME

With up to 60 percent of applications pouring in the last week of each month, processing the high volume of paperwork had become time-consuming and challenging, both for the agents in the field and the clerical staff in the corporate office. A significant percentage of submitted applications contained errors and incomplete information. Correcting the deficiencies required outbound calls between corporate, the field agents, and the customer, a process that sometimes took days, or even weeks, before an application could be corrected and fully processed.

Primerica needed to find a solution to ensure it delivered better, more efficient and timely services to its customers.

Tom Swift, Executive Vice President of Field Technology at Primerica, had his team develop an application called TurboApps, which captures and submits life insurance applications on personal digital assistants (PDA's).

Agents sit down with their customer to gather and input information directly into the TurboApps screens. The TurboApps solution was designed to eliminate errors by running a check of the application before it can be submitted electronically. The program automatically identifies errors and omissions, prompting the agent to make the necessary updates before the customer can electronically sign the application on the device.

TurboApps eliminates redundant data entry for the agent and the company, preventing incomplete or incorrect applications from being submitted, which saves a lot of time, labor and money.

MINUTES NOT DAYS

"Now sales agents can complete the application process in just minutes, whereas before we deployed the TurboApps solution, this process took several days," explained Swift.

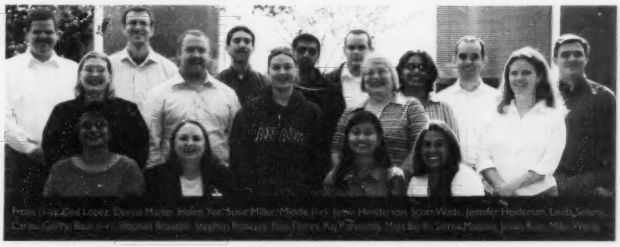
In the first full month since deploying the solution, over 8,000 agents activated the new software on their PDA's, and 23% of the company's total U.S. life insurance production was submitted electronically via TurboApps. Today those numbers have reached 17,500 agents and 47%, respectively.

PRIMERICA
A member of citigroup

Succinctly stated, TurboApps enables agents to process more applications and transactions, in less time, with more accurate information and make better, more informed decisions for their customers. This expedited processing of applications has resulted in quicker payment of agent commissions. In addition, automating the paper-based applications process allowed the company to significantly reduce transactional costs associated with re-keying data, filing paper applications, mail sorting and delivery.

The proven ease of use with PDA's has enabled the agents to adopt and begin using the applications immediately. Thousands of Primerica agents already use a PDA, so there was rapid familiarity with the device and functionality. ▲

Texas Dept. of Family and Protective Services



WITHIN THE TEXAS DEPARTMENT of Family and Protective Services (DFPS) are hundreds of Adult Protective Services (APS) caseworkers visiting elderly and disabled adults who are the victims of abuse, neglect and exploitation. Elderly or disabled Texans represent about a quarter of the state's population. In 2004 APS completed 60,998 investigations of which 44,034 were confirmed cases of maltreatment.

When the department receives a report of abuse, neglect or exploitation, caseworkers are required to initiate an investigation within 24 hours. Caseworkers complete a comprehensive assessment of the alleged victim's situation to identify and address root causes and provide or arrange for services to alleviate or prevent future maltreatment. A wide range of services are provided directly by caseworkers, through arrangements with other community resources, or purchased by APS on a short-term, emergency basis.

EASING "HUGE WORKLOADS"

Caseworkers typically carry huge workloads and, as required by their jobs, file reports on their home visits to clients. Traditionally, caseworkers took notes in clients' homes, then upon returning to their office, manually typed reports into the online Statewide Automated Child Welfare System (SACWIS) application. This procedure was time-consuming and cost-ineffective.

Meanwhile, caseworkers had no way to access DFPS information and resources from the field. In order to provide resource information to a client, caseworkers had to return to their office and look up the information there.

DFPS needed to leverage leading-edge technology to enable caseworkers to file their reports more quickly from clients' homes, to access resources and case documentation remotely, and to create a network for quickly sharing information within FPS.

To achieve these goals DFPS developed Mobile Protective Services (MPS), an application running on a Tablet PC device that allows caseworkers to file reports on the spot, using handwriting and voice recognition as data entry tools.

USING DIGITAL CAMERAS

A digital pen, which functions as a mouse, expedites the process of filling out forms. The information is electronically transported to a database and is immediately available to supervisors, who can act more quickly to serve the critical needs of clients. The application allows caseworkers to send e-mail, including digital images for supervisory consultation. Using digital cameras connected via USB cable to their Tablet PC's, caseworkers can speed treatment by transmitting a digital image of an injured adult.

The solution also provides caseworkers with wireless access to their existing case data. They can receive and view a new case referral while in the field and perform necessary background research remotely.

MPS is the first of its kind, the only mobile solution that allows state caseworkers to upload and download data wirelessly in real-time. ▲

Fast Facts

TEXAS DEPT. OF FAMILY AND PROTECTIVE SERVICES
AUSTIN, TX
WWW.DFPS.STATE.TX.US

"THE TABLET PC IS SO HELPFUL TO ACCESS THE MPS WORKLOAD WHILE OUT AT THE FACILITY. TYPING DIRECTLY INTO THE CASE ELIMINATES LOTS OF TIME. WHEN I HAVE A SICK CHILD AT HOME I CAN STILL TYPE CLOSINGS, DOCUMENTATION AND DON'T FEEL SO BEHIND UPON MY RETURN."

JENNIFER QUINN, **REGION 7 ADULT PROTECTIVE SERVICES FACILITY CASEWORKER, TEXAS DEPARTMENT OF FAMILY AND PROTECTIVE SERVICES**

Airport Authority Hong Kong

Fast Facts

AIRPORT AUTHORITY HONG KONG
HONG KONG, HONG KONG HKG
WWW.HONGKONGAIRPORT.COM

"WITH THE AIRPORT-WIDE WIRELESS LAN IN PLACE, MY USERS AND BUSINESS PARTNERS CAN NOW FOCUS ON WHAT INFORMATION AND SERVICE THEY NEED AT THE SPOT RATHER THAN WORRYING HOW TO FIND IT."

C O WONG, **SENIOR IT MANAGER – TECHNICAL PLANNING, INFORMATION TECHNOLOGY UNIT, AIRPORT AUTHORITY HONG KONG**

WITH AN AVERAGE OF 750 aircraft movements daily, the increasingly busy Hong Kong International Airport (HKIA) required a reliable, high-performance WLAN infrastructure that would enable secure and speedy access to information in every corner to keep services running at the optimal level.

In 2004, the Airport Authority Hong Kong (AA) established, and has since continued to extend, a unified, industry-standard WLAN infrastructure. The WLAN now covers all the indoor areas including the Passenger Terminal, the Baggage Hall and all aircraft parking stands in the apron, and is the world's largest airport WLAN in terms of coverage and number of access points. Comprising over 200 access points and eight controllers, it not only enhances the productivity of AA staff by allowing 24x7 access to necessary information inside the facility, but also empowers business partners, including, airlines, service agents, aircraft maintenance engineers, retailers and wireless ISPs to build applications and offer services in the HKIA.

HIGHLY EFFICIENT TRANSFER

The HKIA is one of the few airports leveraging a robust WLAN infrastructure to expedite passenger acceptance. To boost efficiency, on-demand mobile check-in is conducted immediately when passengers arrive at the airport.

The WLAN also helps cut queuing time for inbound passengers by sea from some Pearl River Delta (PRD) ports in Mainland China. Passengers arriving at the HKIA's SkyPier during peak hours from these PRD locations are processed by Wireless Check-in and proceed to the passenger terminal by bonded buses for their flights, without having to go through customs formalities.

Importantly, the industry-standard WLAN helps the AA meet the performance target of ensuring sufficient facilities for airlines to maintain passenger queuing and check-in time within 30 minutes.

Using barcode and RFID technology, wireless dual-mode scanners track and reconcile each transfer and departure bag in the Baggage Hall and by the aircraft side on the apron. This enables the AA to surpass the IATA (International Air Transport Association) standard of five short-shipped bags per 1,000 passengers.

With wireless handheld or in-vehicle computers, staff from airlines and other service providers have timely access to critical information, including schedule changes, parking bay assignment, turnaround activity progress and aircraft maintenance records. Punctual turnaround on the apron is thus ensured.

香港機場管理局 AIRPORT AUTHORITY HONG KONG

NEXT STEPS

Within 2006, the AA will extend WLAN coverage to the entire cargo apron. Cargo operators can extend their wireless access from the Cargo Terminal out to the apron. Airlines equipping their aircraft with WLAN capability can feed information, including maintenance records, defects and in-flight sales via the AA WLAN to their networks. This ensures faster and more reliable data transfer.

By Q3, the WLAN will be extended to Terminal 2 and the new AA Headquarters Building, increasing the number of wireless access Points to 300 and controllers to 12.

Building an airport-wide Wireless LAN infrastructure has enabled mobility of access to mission-critical information by the airport community – internal staff, business partners, handling agents and passengers. ▲

Medtronic

A GLOBAL LEADER in medical technology, Medtronic provides a wide range of products and therapies. In order to improve business performance, it provided its field sales reps with wireless, mobile access to all the data they need to do their jobs without repeatedly calling customer service for help. As a result, the company reduced product obsolescence, enhanced sales rep productivity, improved inventory management and eliminated an average of 12 calls per week per field rep to customer service.

The driving force behind those benefits is Medtronic's Cardio Rhythm Disease Management (CRDM) Sales Technology Applications, which have deployed 2,050 Personal Digital Assistants (PDA's) that serve as wireless reference, communication and selling tools.

Used as a reference tool, the PDA's can access the Pacing Encyclopedia, which provides 30-40 years on specs for implantable pacing devices. A Knowledge Base provides reference materials so reps can look up product information, hospital reimbursement info, etc.

ACCESSING MULTIPLE APPS

When the PDA's are used as a communication tool, they employ wireless messaging capabilities to access e-mail, contacts and calendars. They also provide text messaging and a built-in phone. In addition, they include a mobile office suite of applications.

As a selling tool, the PDA's run two major custom wireless applications for field sales reps. The first one of those is a wireless application designed to enable the Medtronic Field Sales Force to manage their inventory of medical devices they sell, which all have expiration dates. The application lets reps view field inventory on their PDA's and enables them to perform a number of tasks. These include: conducting regional product searches, viewing product expiration dates, recording sales and creating purchase orders, requesting product replenishment with specific delivery dates and times, transferring products and sending questions directly to Customer Service.

The second application allows reps to use their PDA's to see the inventory in their own "trunk" (that they carry), view the "trunk stock" of all the other sales people in their district, and to view products on the shelf at hospitals. The reps can pick the products they will use, create an order and submit the order wirelessly.

BRINGING REPS TOGETHER

When the order is submitted, the PDA sends a wireless e-mail message to customer service with specific instructions such as how to replenish the item. The order and all the instructions show up on-screen in Medtronic's Minneapolis headquarters for fulfillment. If a rep locates a product in another rep's "trunk stock" and they meet so one rep can get the item from another rep, they use the PDA to note that the inventory item has been transferred.

Medtronic developed the wireless applications in house to let field sales reps perform wireless sales queries on their PDA's. They enable field sales reps to check their sales and PO Pendings. The rep uses an application to check daily schedules assigned by their district sales office.

Medtronic also uses the PDA's to survey its field sales force. Reps receive an SMS that when clicked, downloads a survey to the PDA for reps to complete and transmit wirelessly. Medtronic has achieved a 30-40% response rate on these rep surveys, allowing it to better understand their reps and their needs. ▲

Fast Facts

MEDTRONIC
MINNEAPOLIS
WWW.MEDTRONIC.COM

"MEDTRONIC IS EXTREMELY SATISFIED WITH THE WIRELESS APPLICATIONS THAT HAVE BEEN DEVELOPED AND DEPLOYED TO OUR FIELD SALES FORCE. THE APPLICATIONS ALLOW THE FIELD TO BE MORE PRODUCTIVE AND TO BETTER SUPPORT OUR CUSTOMERS."

JIM ADAMS, PROGRAM MANAGER, CARDIO RHYTHM DISEASE MANAGEMENT SALES TECHNOLOGY APPLICATIONS, MEDTRONIC

Beth Israel Deaconess Medical Center

Fast Facts

BETH ISRAEL DEACONESS MEDICAL CENTER
BOSTON
WWW.BIDMC.HARVARD.EDU

"ACTIVE RFID OVER WIFI ENABLES US TO TRACK EQUIPMENT, PATIENTS AND WORKFLOW, WHICH ENHANCES OUR ABILITY TO DELIVER HIGH QUALITY PERSONALIZED CARE AND REDUCE OUR SUPPLY CHAIN COSTS."

DR. JOHN HALAMKA, CHIEF INFORMATION OFFICER, SALES TECHNOLOGY APPLICATIONS, BETH ISRAEL DEACONESS MEDICAL CENTER

BETH ISRAEL DEACONESS Medical Center needed a more efficient way to manage its mobile asset workflow, and track critical biomedical equipment, patients and staff.

Dr. John Halamka, CIO at Beth Israel Deaconess Medical Center, estimated that an asset-tracking solution could save Beth Israel more than $1 million yearly by avoiding wasted hours searching for the equipment when it was needed. Halamka estimated that about $300,000-$400,000 of equipment disappears yearly, typically misplaced in the course of day-to-day operations. The goal was to have immediate access to that equipment.

Beth Israel Deaconess Medical Center

Beth Israel chose a Wi-Fi-based asset tracking and visibility system to meet their asset-tracking needs. The system provides a cost-effective solution that leverages Beth Israel's existing wireless network to deliver real-time locationing technology. Using Beth Israel's standards-based 802.11 wireless access-point infrastructure as its reader network eliminates the need for single-use, proprietary RF readers and networks, saving time and dollars associated with costly overlay hardware deployment.

SYSTEM ELEMENTS

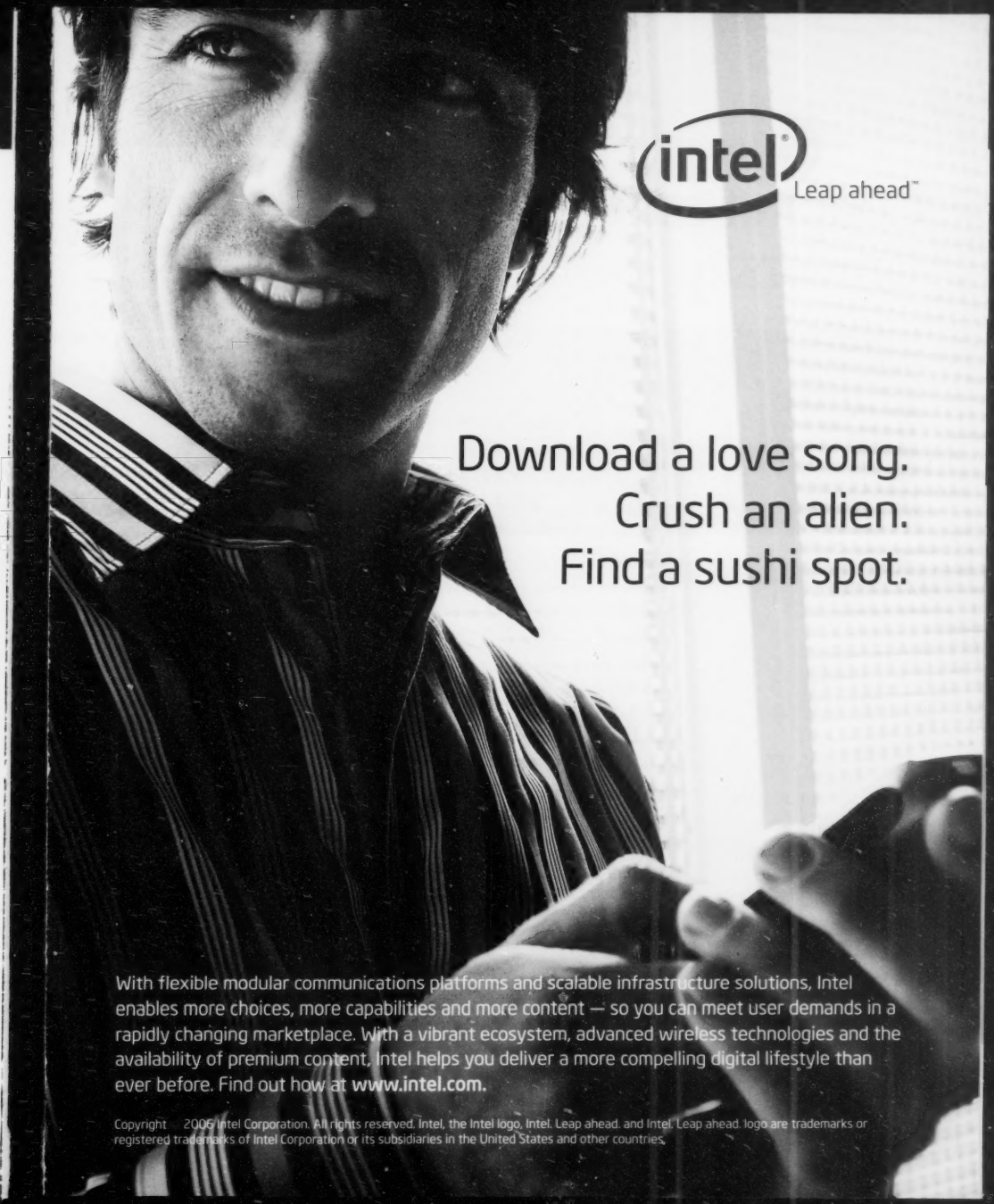
The deployment at Beth Israel is based on a fully integrated solution, including the asset-tracking and visibility system running over the wireless network. These technology pillars are supported by a location appliance, an operating system platform, a locator application and active RFID tags. The location appliance converts information from the RFID reader/access points and active RIFD tags to "x, y, and floor" location data. The asset-tracking and visibility solution leverages data from the location appliance and transforms it into intuitive asset-tracking information for the end user (e.g., a nurse in a hospital looking for a ventilator, a materials manager searching for test equipment, etc.).

The initial implementation was distributed across Beth Israel's 48,000-square-foot emergency department, and then expanded to include its cardiac care unit. These departments manage assets ranging from beds and wheelchairs to ventilators and IV pumps, extending the value of the hospital's use of wireless tracking.

BOTTOM LINE: ENHANCED PATIENT CARE

The Beth Israel team gained substantial knowledge from this implementation. First, it now always knows where assets are located, increasing their utilization, and avoiding unnecessary procurement. It also knows far more about how the equipment is used, where it's been, and if it needs repair. This level of location-based intelligence truly optimizes workflow and, most importantly, improves patient care.

Location and status information are also integrated at the nurse's station in the center of the emergency room (ER). The electronic dashboard application used by Beth Israel tracks patients' clinical progress, bed availability, and workflow. As a result, patients leave the ER an average 45 minutes sooner, a major cost-cutting measure. Other major benefits include improved patient and staff satisfaction, reduced equipment purchases, and overall efficiency, since staffers are no longer spending 20 percent of their shifts searching for equipment. ▲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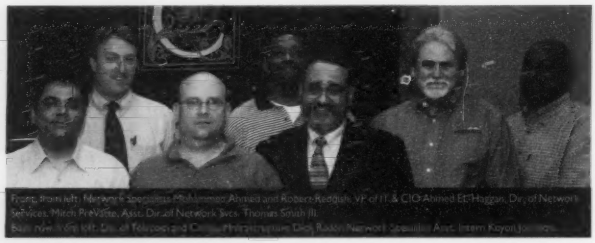
Coppin State University



Front, from left: Network Specialists Mohammed Ahmed and Robert Redguis, VP of IT & CIO Ahmed El-Haggan, Dir. of Network Services Mitch PreVatte, Asst. Dir. of Network Svcs. Thomas Smith III.
Back row, from left: Dir. of Telecasting Carlos Thompson, Unix Radio Network Specialist Asst. Intern Kevon Jones.

Fast Facts

COPPIN STATE UNIVERSITY
BALTIMORE
WWW.COPPIN.EDU

"IT IS VERY SATISFYING TO SEE OUR STUDENTS STUDYING AND COLLABORATING AROUND THEIR LAPTOPS USING OUR CAMPUS NETWORK RESOURCES AND THE INTERNET VIA COPPIN'S WIRELESS NETWORK."

AHMED EL-HAGGEN, **VICE PRESIDENT OF IT & CHIEF INFORMATION OFFICER, COPPIN STATE UNIVERSITY**

COPPIN STATE UNIVERSITY set forth to transform its teaching, research and administrative environment through the strategic deployment of IT. The academic and IT leaders had an ambitious objective to make Coppin State's technology infrastructure a competitive differentiator, to attract new net-generation students, retain top faculty and optimize the operational efficiency of its administration. In order to do so, it would have to deploy a new voice and data network.

STRIVING FOR "TECHNOLOGY FLUENCY"

The leadership team conceived of a "Technology Fluency Program" which would immerse students in a sophisticated, rich technology environment which would provide them with the necessary skills, conceptual understanding and intellectual capabilities to render them technology-fluent.

Since this robust infrastructure was built, Coppin State has launched several technology initiatives that have enhanced students success. These include the Tegrity Campus, where classroom instruction is recorded, uploaded to our CMS for later review and synchronization to the students' digital notes taken synchronously or asynchronously.

Other new initiatives include a Web-centric Enterprise Resource Planning (ERP) system, enhanced campus security, and a one-card system for faculty and staff access to classrooms parking areas. This one-card system is also used by students in residence facilities for meal plans.

The infrastructure enables the campus-wide deployment of decision support systems, data analyzers, and a data warehouse. Secure campus servers within the network infrastructure enable the deployment of an e-provisioning system and Web self services.

In order for all this to happen, the entire core campus network infrastructure needed to be upgraded. The plan included deployment of a new telephony platform, including traditional and IP telephony along with unified messaging capabilities. The data network needed to be upgraded to provide greater bandwidth, reliability, redundancy and quality of service features. Solutions for physical and cyber security were required and the plan also needed to encompass a wireless mobility campus-wide rollout.

CHANNELING IT ENERGY

In short, the goal was to roll out a state-of-the-art network infrastructure that would energize the faculty pedagogical creativity, foster research innovation, streamline administrative efficiency and enable learning and success. The new Web-centric ERP system with portal technology provided secured access to our students, faculty, and staff utilizing the Internet through e-self-services. Deploying an SSL VPN solution enabled the university community to remotely and wirelessly have secure access to their homes, departments, schools, and campus-wide data storage areas.

Deploying IP SANs (iSCSI) enabled faster, larger, cost-effective storage capacity. We are currently deploying an IP SAN to replicate our mission-critical data to a remote site for disaster recovery purposes. Wireless VOIP phones are deployed to our Help Desk, IT Support staff, Housekeeping, and Public Safety. ▲

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Electrical Safety Authority of Ontario

Fast Facts

ELECTRICAL SAFETY AUTHORITY OF ONTARIO
MISSISSAUGA, ONTARIO
WWW.ESAFE.COM

"WE ARE EXTREMELY PLEASED WITH OUR MOBILE SOFTWARE, LAPTOP AND WIRELESS CONNECTIVITY SOLUTION. IT DRAMATICALLY IMPROVED THE MORALE OF FIELD USERS AND COMPLETELY TRANSFORMED THE RELATIONSHIP BETWEEN THEM AND THE IT DEPARTMENT."

MARK TAYLOR, **DIRECTOR OF INFORMATION SYSTEMS, ELECTRICAL SAFETY AUTHORITY OF ONTARIO**

TO ENSURE THE SAFETY of Ontario residents, the Electrical Safety Authority (ESA) inspects all electrical installations related to new construction, renovations, or maintenance in commercial, industrial, institutional and residential settings. Each year, ESA receives approximately 350,000 new requests for inspections. This combined with follow-up visits amounts to an average of 15 inspections a day for each of its 220 inspectors.

Managing this process in an efficient, cost-effective manner has been a complex challenge, until recently.

In 1995, ESA implemented a homegrown, client-server, mobile inspection system to process requests for inspections, assign them to its inspectors, and synchronize inspection data with its consolidated database. Although ESA was ahead of the industry at the time in its use of mobile technology, that system ultimately wasn't able to meet its needs.

That system was replaced in 2000, but after a few months ESA realized that solution, too, was not able to easily meet the data access needs of its mobile frontline workers.

SEEKING ERP COMPATIBILITY

Determined to find a solution that would meet its business needs—particularly improving inspector productivity, achieving faster data synchronization and accommodating unique business processes—ESA decided to create a new mobile data collection and synchronization solution that would interface with its Enterprise Resource Planning (ERP) application.

Prior to the standard practice of issuing an RFP to create and implement this solution, the ESA project team, which included both IT staff and inspectors, took the unique step of contacting peers at 10 different organizations to see how they were employing mobile technology to achieve their business objectives. The ESA team also gathered information from these peers about the various vendors they were considering contacting for RFPs.

After a thorough assessment, ESA selected a rapid application development tool for mobile solutions. This tool was powered by a software package that provides data management and enterprise data synchronization that enables the rapid development and deployment of database-powered applications for mobile, embedded and SMB environments.

The rapid application development tool enabled ESA to develop solutions with functionality to meet its specific business needs at any given time without having to call in outside consultants. Unlike many software applications that force business processes to fit the application, the tool allowed ESA to force the application to accommodate its many unique Public Safety processes.

Electrical Safety Authority

"ONE-SCREEN" APP FITS ALL

ESA developed a time-saving "one-screen application" that allowed its inspectors to synchronize each morning to get their work assignments, to record the results of each inspection, and to synchronize that information with its work order system and back-end database as frequently as desired throughout the day.

The new solution's synchronization technology was also a major timesaver. Previously, it took inspectors 20 minutes or more to synchronize their data at the end of the day. The rapid application development tool slashed that to just two minutes.

The system is a complete enterprise mobile data collection and synchronization solution that allows ESA to exchange business-critical information bi-directionally between mobile workers and centralized systems, anytime and anywhere they can get a wired or wireless connection. ▲

United States Postal Service

THE UNITED STATES POSTAL SERVICE (USPS) is a large and distributed organization with a diverse and complex employee population and workplace that is in motion twenty-four hours a day 365 days of the year.

We faced two problems ubiquitous to large corporate environments. Number one, laptops and other "mobile" solutions aren't mobile enough. Our managers increasingly find themselves in situations that require the ability to immediately access and communicate corporate data and business decisions while away from their desks.

ACCESS IS KEY

Number two, how does a large distributed organization manage the support, cost for the service and maintenance of the mobile solution that you use to solve problem number one?

The tasks assigned the USPS Information Technology (IT) organization were clear:

Easily and affordably provide access to corporate data, business applications, USPS Intranet, the Internet, and instant communication alternatives everywhere, all the time. We also needed to provide enterprise life-cycle management and the oversight of hardware, support, and service assets.

Beyond eMail and calendaring, USPS IT designed and developed the following management applications that are available from a personal digital assistant (PDA):

eTravel - Review and approve travel vouchers

eBuy - Review and approve funding commitments

eAccess - Review and approve requests for access to applications, data, systems, and facilities

PEMS – Postal Emergency Management System

EPIC – Electronic Postal Information Center

These applications are wirelessly pushed without user intervention to 6,000 postal managers, including all 38 officers of the company, 750 executive managers, and all operations management, including over 5,200 major facility managers, key staff, and continuity of operations processing (COOP) leads.

ENHANCING USER POWER

In addition to standardizing hardware and software to a cost-efficient PDA, we adopted a proactive self-service approach based on anticipating and resolving problems before they become Help-desk tickets. Our training tools and infrastructure design simplified the user interface, empowering customers to manage tasks that previously required a support technician to resolve.

The USPS is making end-user empowerment and enterprise configuration management simple and standard with its IT Self Service Application (ITSSA). The end result is greater and more detailed micro and macro oversight for service ordering, device set-up and training, packship workflow, shipping and delivery, and reporting. Within minutes of its receipt, the device is active and able to approve travel vouchers and funding commitments, communicate corporate information, and access data.

While only in production for a few months, the ITSSA has shown to be a time and labor saving tool by serving as the critical integrated link between individuals, vendors and IT infrastructure.

Our managers are connected anywhere, anytime. They can offer real-time responses if needed.

The five Postal business applications that are now accessible from the PDA are easier and faster to use than the Web-based applications accessed from a traditional workstation or laptop. ▲

Fast Facts

UNITED STATES POSTAL SERVICE
WASHINGTON, D.C.
WWW.USPS.COM

"U.S. POSTAL SERVICE INFORMATION TECHNOLOGY HAS BUILT A PLATFORM FOR WIRELESS COMMUNICATIONS THAT ENABLES ALL 800 POSTAL EXECUTIVES AND 5,200 SENIOR STAFF TO SERVE OUR BUSINESS NEEDS IN THE LONG-TERM AND HELP US CONTROL COSTS."

ROBERT OTTO, **VICE PRESIDENT AND CHIEF TECHNOLOGY OFFICER, UNITED STATES POSTAL SERVICE**

St. John's University

Fast Facts

ST. JOHN'S UNIVERSITY
QUEENS, NY
WWW.STJOHNS.EDU

"THE DIGITAL VIDEO SURVEILLANCE SYSTEM IS EXTREMELY FLEXIBLE, AND CAN BE EASILY REPROGRAMMED TO RESPOND TO THE UNIVERSITY'S CHANGING NEEDS ON A MOMENT'S NOTICE, WHILE PROVIDING A SECURE CAMPUS ENVIRONMENT."

JOSEPH TUFANO, **CHIEF INFORMATION OFFICER, ST. JOHN'S UNIVERSITY**

WITH THREE NEW YORK CITY locations, St. John's University intensified its focus on security following the events of September 11, 2001, as did many institutions in New York. The University was careful, though, not to infringe on the lives of its students, and insisted on maintaining an open-campus environment, allowing unhampered access to the resident dining hall and many academic buildings.

In 2004 the University piloted, and subsequently implemented, a digital surveillance system at its Rome campus. St. John's, impressed with the system's effectiveness and ease of installation, became convinced that digital video was the right technology to move forward with.

UPDATING LEGACY TECHNOLOGY

The challenge the University faced was the need to overhaul an aging system while integrating new technologies and improving security capabilities to accommodate a growing resident- and commuter-student population of more than 20,000 students, as well as more than 2,000 faculty and staff. Through a good working partnership, Information Technology consulted with Public Safety to address the problem. The two departments chose a network-based, integrated, digital-video system using both existing and new cameras.

The advanced, state-of-the-art, digital, video-technology system features software that detects motion, making it easier to locate and track incidents without disrupting the flow of data. Incidents can also be flagged and reviewed later. The system's digital technology enables campus security officials to re-program surveillance monitors to focus attention on the areas on campus that need it most at a particular time, enabling enhanced security at all events held on all campuses. For example, the screen views during a sporting event would be different than those on move-in day.

The cameras now connect either over cable or wirelessly to digital encoders which turn the analog video signal into a data stream that travels on the University's IP network. (IP cameras, in pilot use, can also connect with or without wires to the core network.) File servers that store the data, and a new, state-of-the-art command center are also connected to the network. This architecture puts the correct components in their optimal location while ensuring a seamlessly integrated system.

MAKE IT EVEN BETTER

St. John's campuses were secure, but the security system needed to be made more efficient so that it could be monitored effectively.

The University spent about $600,000 on the digital video surveillance project implemented in February 2005, but considers the return on investment to be priceless. The funds replaced the old tape system with new digital recorders, integrated existing cameras into the system, and bought 78 new cameras for the Queens campus, two off-campus student apartment houses in Queens, and the Staten Island and Manhattan campuses.

New flat-panel monitors and computer-support furniture replaced old video monitors in the Public Safety command center. A separate IP network was built on the Queens campus to transmit all video reliably. Eight servers were purchased for the project, which has been praised by the entire University community. ▲

Front, l-r: Miriam Furman, Marketing Assoc., Internal & External Communications; Joseph Nastasi, Dir. Internal & External Communications. Back, l-r: Baran Singh Ahuja, Technical Integration Project Mgr.; Walter Kemp, Dir. Enterprise Network Svcs.; Stephen Haig, Dir., Student Card Office; Residence Safety Programs; Joseph Tufano, CIO; Thomas Lawless, IT Project Mgr.; Dennis Wenski, Tower Svcs., Dir. Public Safety & Risk Management

SureXpress

SUREXPRESS OFFERS COMMERCIAL delivery services throughout Oklahoma as well as select areas of Texas, Kansas, Arkansas and Missouri. The company specializes in ensuring overnight, same-day and two-day delivery of medical and veterinary specimens, x-rays, pharmaceuticals, legal documents, payroll, automotive parts, hazardous waste, and a variety of other important items.

SureXpress has been able to compete with well-established services by specializing in the delivery of sensitive materials, but it previously struggled with a cumbersome, paper-based tracking system that left too much room for error. Considering the fact that Food and Drug Administration (FDA) agents sometimes follow its delivery trucks to ensure secure handling of pharmaceuticals and similar substances, SureXpress desperately needed to move into the digital age.

The company has implemented a digital tracking and monitoring system that consists of personal digital assistants (PDA's) running proof of delivery software.

TRACKING PACKAGES

Today, a customer requests a pickup through the SureXpress Web site, which automatically routes it to a dispatch screen and assigns a tracking number. The package gets scanned when picked up and delivered, with the signature on the receiving end matched against the tracking number to ensure that the item went to the proper recipient. Anything stored temporarily in the company's warehouse is also scanned when it enters and leaves the facility, adding another level of security to the process.

In the past, a bill of lading was generated and given to the customer, who filled it out and handed it to the driver. The slips collected during a shift weren't reconciled until the next day, allowing too much time to elapse before mistakes were caught. Today, not only is SureXpress alerted as soon as a problem occurs, but it also knows when a driver doesn't have any packages to pick up at a particular location, giving the company peace of mind that nothing was missed.

INSTANT INFORMATION

SureXpress and its customers now have access to real-time tracking of packages, especially pharmaceuticals and other sensitive materials that could become a federal matter if misplaced. In this enhanced environment, the delivery process is faster because paper has been eliminated. Also, the company learns about problems immediately, rather than waiting for bills of lading to be reconciled the next day. In addition, the billing and collection process is streamlined, as times have been cut from 3-4 weeks to about 10 days, thanks to the ability to automate the delivery charge and link it to the company's accounting software through the proof of delivery system.

Now drivers use the PDA's built-in camera to document damaged packages when they're picked up, avoiding blame for items broken by others. Because the system is based on an application service provider, SureXpress eliminated the need for two employees: one that helped handle paper records and one that managed IT tasks.

Like most companies, SureXpress is looking for a competitive advantage, and its new tracking system creates that advantage because it is more robust than other systems used by even its largest competitors. This is a key selling point when attracting new customers. ▲

Fast Facts

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BROOKS WRIGHT, **CHIEF EXECUTIVE OFFICER, SUREXPRESS**

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[1]System performance, battery life, high-definition quality and functionality, and wireless performance and functionality will vary depending on your specific operating system, hardware and software configurations. System performance is measured by MobileMark 2005. References to improved battery life, if applicable, refer to previous generation Intel® Centrino® technology platforms. Wireless connectivity and some features may require you to purchase additional software, services or external hardware. Availability of public wireless LAN access points is limited, wireless functionality may vary by country and some hotspots may not support Linux-based Intel Centrino mobile technology systems.
See http://www.intel.com/products/centrino/more_info for more information.

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THE AGILITY CORPS:
What Michael Hugos calls IT-business operations experts who successfully apply combinations of six core techniques to deliver quick, 80% solutions to business problems (see "The Future Belongs to the Agile," March 13).

bers from the company provided the needed business knowledge and took part in system testing and rollout.

We decided to increase visibility into the supply chain. If we could improve the quality and timeliness of data from all parties in the supply chain, then the inventory planners could make better product allocation decisions. Our approach had three objectives: 1) Enable product suppliers to electronically send inventory data on a regular basis, 2) automatically update a supply chain database with new inventory data as it becomes available, and 3) enable inventory planners to query the database to get the reports they need.

How did we accomplish our mission under tight time and budget constraints? By not trying to do everything. That doesn't mean we just threw together some half-baked program code that would crash unexpectedly. It means we built a robust, 80% solution to the most pressing problems. We delivered a simple, stable and scalable system to achieve the defined objectives. And the system can be built upon and expanded later with new features as needs evolve.

Here's the test: Sketch out your system design. How would you build it? What's your work schedule? Where would you enhance the system in the future? Send me your answer; I'm interested in hearing what you would do. Next month, I'll tell you what we did. If you want some ideas, see my webcast, "Moving Toward the Agile Enterprise" (click on "Webcasts" on *Computerworld.com*). This is a chance to earn a promotion and a three-day pass.

MICHAEL GARTENBERG

'It'll Soon Shake Your Windows . . .'

CHANGE CAN be good, but sometimes, no matter how good new ideas are, they don't catch on.

Take the venerable keyboard arrangement. Legend has it that the QWERTY layout was adopted by typewriter vendors to keep users from typing too fast and jamming their mechanical machines. Despite the creation of better layouts that would facilitate faster typing, we're still using the old layout. It might not be efficient, but it's familiar and it works.

Microsoft is trying to make some changes in the way we interact with our PCs. It's not a new effort. It started with Windows 98 and the ability to open new windows with one click instead of the customary double click. Most users didn't adapt well and turned off the feature. Now, with the imminent release of Windows Vista and Office 2007, it looks like we're going to see even more changes to the way Microsoft wants us to work with our machines.

You know the feeling. Your work space might seem cluttered to others, but you know where every item is. If someone cleans up your space, you can't find anything. That's how I feel using the betas of Office, Windows, Internet Explorer and Media Player. The current paradigm for GUIs isn't perfect, but I have a lot of time invested in it. I've got six years invested in XP and even more than that in Office. I know where everything is and can get there in a moment.

MICHAEL GARTENBERG is vice president and research director for the Personal Technology & Access and Custom Research groups at JupiterResearch in New York. Contact him at **mgartenberg2@optonline.net**. His weblog and RSS feed are at **http://weblogs.jupiterresearch.com/analysts/gartenberg**.

With the new versions, nothing seems to be where it belongs. Several decades' worth of GUI guidelines were tossed out. Worse, it seems I'm required to have a fine degree of mouse dexterity in order to hit all the tiny targets on the screen that need to be activated. And I have to wonder, who thought putting the menu bar under the address bar in IE was a good idea? Why is the zoom command in Office buried at the bottom of the screen?

In contrast, when I switched from Mac OS 9 to OS X, I found a lot of things that were different, but everything made sense. All the core functions still worked the same. The result was a design that worked, and for some reason my mouse ends up making the correct choice when I need to do something that's different. At the moment, Vista feels very alien, Office even more so, and I've banished IE7 from my XP machine because working with it feels so foreign.

Perhaps I'd be more accommodating if some of the more fundamental issues of the Windows operating system were addressed. (For example, in this era of connectivity and mass storage, why do I still need a "Save" menu item — anywhere? Why isn't everything I do saved by default?) A lot of these changes feel gratuitous — change for the sake of change and not for improvement. But even if the changes are meant to be improvements, it might have helped if the designers had taken a closer look at their QWERTY keyboards first.

There's been a lot of discussion about the implications of these new products, but one thing is clear. If you're looking to deploy, be prepared for a lot of users asking, "Who moved my stuff?"

Years ago, Bob Dylan sang, "It'll soon shake your windows and rattle your walls, for the times they are a-changin'." Who knew the Windows Bob was talking about was Vista?

WANT OUR OPINION?

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READERS' LETTERS

Certifications Are Of Diminished Value

CERTIFICATIONS ARE definitely of questionable value ["Debate Over Costs, Benefits of Certification Is Unsettled," April 17]. One problem is that when demand increases for a certification, the value in terms of salary decreases as holders of that certification become so numerous that they are a dime a dozen. The major winners are the testing centers that administer the tests.

Another problem is how easy it is to cheat. The Internet is loaded with cheat sites, and there are very few tests that haven't been captured in their entirety and published on the Web. Professional exam-takers can also be hired. Finally, many certification courses teach not how to deal with the real world but how to pass the test.

On the plus side, certifications can get you past HR, since some HR people simply look at an alphabet-soup collection of buzzwords. Having the right mix can eliminate a reason for the HR person to say no, but it doesn't mean he will automatically say yes.

John A. Brohman
Instructor, British Columbia Institute of Technology, Vancouver

Free the Web of Proprietary Tech

CHARLES HAVEN and Bill Pratt claim in their letters that Firefox is not an alternative 100% of the time, mainly because not all Microsoft proprietary technologies are supported ["Firefox vs. IE vs. None of the Above," April 17]. That, however, is not a defect of Firefox, but a defect of the Web pages. Web sites are supposed to provide Web pages that are fully HTML-compatible, because then it doesn't matter which browser is used and a true comparison can be made. The Web is no place for nonstandard and proprietary technologies that demand that everyone use a particular browser. And Firefox starting up slow? Yes, because it does not load everything except for the GUI on system start-up as Internet Explorer does. No wonder IE starts faster.

David Krings
Software support engineer, Bristol, Conn.

Good UWB Primer

THE APRIL 10 QuickStudy article on "Ultrawideband" wireless technology was the clearest, most cogent explanation of UWB that I have ever read!

Joanne Bandlow
Cleveland

The Ills of 'Works Out of the Box'

THE "WORKS out of the box" syndrome is prevalent ["Factory Settings – Insecure by Default," Technology, April 24]. I am sure many organizations have "rogue" access points because somebody went to the office supply store, bought a wireless router, brought it back to the office and plugged it in. So anybody with a wireless laptop has access to the LAN. It is not a malicious act, but lack of information. The hardware vendors just make it too easy.

Mark L. Strickland, CISSP
IT director, Atlanta

COMPUTERWORLD welcomes comments from its readers. Letters will be edited for brevity and clarity. They should be addressed to Jamie Eckle, letters editor, Computerworld, PO Box 9171, 1 Speen Street, Framingham, Mass. 01701. Fax: (508) 879-4843. E-mail: letters@computerworld.com. Include an address and phone number for immediate verification.

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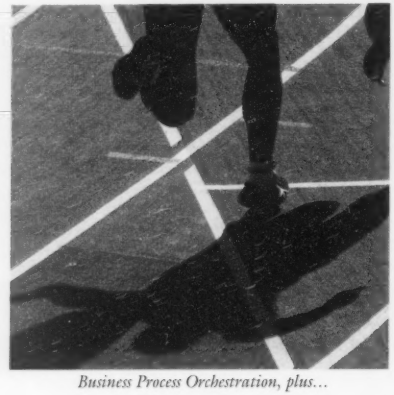

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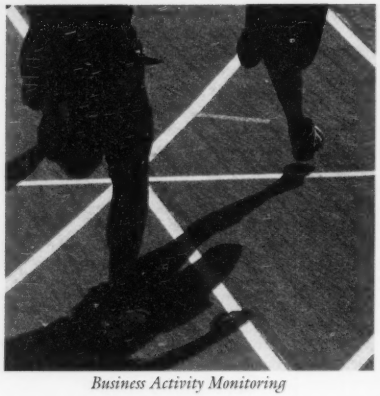

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TECHNOLOGY

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FUTURE WATCH

Minds of Microsoft

Experts at Microsoft Research, like Kevin Schofield (far left) and Victor Bahl, are at home whether they find themselves developing search engines or looking at ways to use anti-spam technologies in AIDS research. **PAGE 30**

SECURITY MANAGER'S JOURNAL

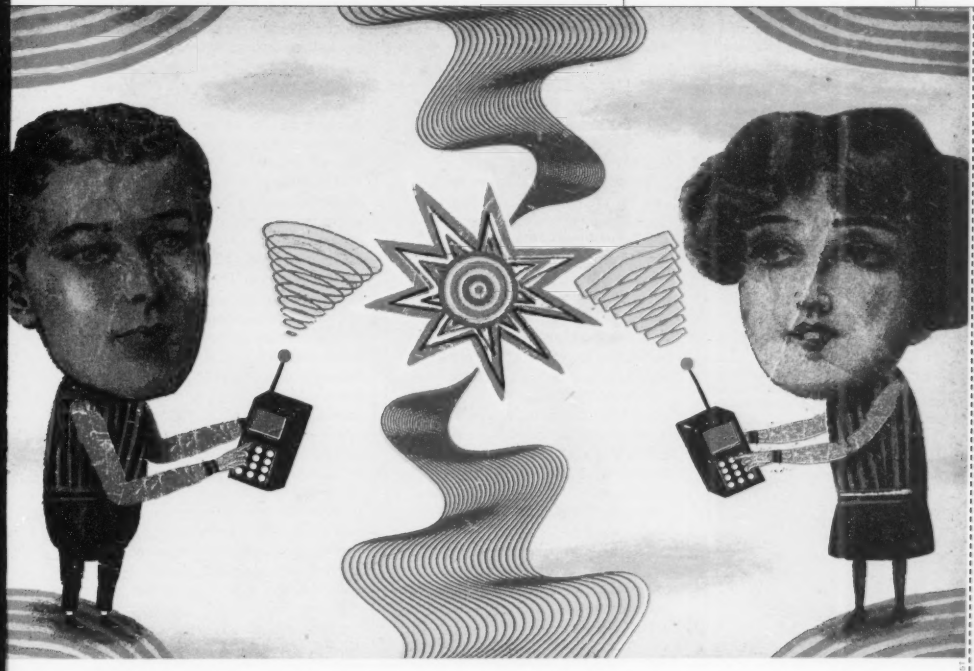
Saying You're Wrong Can Feel So Right

C.J. Kelly offers a *mea culpa* after she realizes that the all-in-one security devices she purchased aren't up to par. **PAGE 34**

OPINION

In Search of the Information Kilowatt

As virtualization continues to convert computing infrastructure into a commodity service, a common metric for metering those services will need to evolve, says Mark Willoughby. **PAGE 36**



CHRISTIAN NORTHEAST

WI-FI CELLULAR AT CROSSROADS

The convergence of mobile networks and devices could extend coverage and simplify access, but loose ends linger. **BY JOANIE WEXLER**

EMERGING TECHNOLOGIES

BUSINESSES going mobile today face a daunting array of wireless access technologies, services and devices that are fairly complex to cobble together. To maximize network coverage, for example, most large organizations must work with several cellular network operators. They also often run their own private wireless LANs for faster, less expensive mobile campus connections.

Achieving broad mobile coverage could soon become less cumbersome, however, as LAN-speed Wi-Fi networks and cellular networks take their first early steps toward convergence.

Managing cellular wireless alone is a challenge that typically involves purchasing, provisioning, managing and securing a variety of wireless cards, devices and network service suppliers.

"When managing multiple vendor relationships and configurations, the cost rises exponentially and eats up time," says Tony Fuller, CIO at Rent-A-Center Inc., a North American retailer based

AT A GLANCE

Converged Wi-Fi/Cellular Services

PROS: Greater cumulative wireless network coverage; fewer devices and connection fees per user; uninterrupted VPN and voice sessions across network boundaries.

CONS: Dual-mode device availability is sparse; accountability for end-to-end service quality and trouble-shooting across multiple operators' networks remains an issue and poses potential security risks.

BEST FIT: Salespeople, field service workers and highly mobile executives.

in Plano, Texas. "And users adjusting to use different networks spend time concentrating on the device, not on the work at hand."

The convergence of Wi-Fi and cellular devices and networks — which will eventually hand off signals to each other so users won't have to reauthenticate when crossing network boundaries — could help address these problems. Nascent industry endeavors to bridge these environments promise to extend the reach of wireless networks, reduce the number of client devices per user and streamline the lives of both IT and the mobile worker.

The IT community likes the sound of wireless convergence — at least on paper. "We use both wireless [LAN] and cellular. Obviously, we'd love to have the two converge into a single wireless source," says Vern Butler, chief technology officer at CWCapital LLC, a commercial loan company based in Needham, Mass. "Handoffs between mobile networks would allow our lenders to continue conducting business independent of the network available and maximize the use of their time."

Paul Limon, IT manager for the Americas at heavy equipment manufacturer JCB Inc. in Pooler, Ga., concurs. "Extending our [virtual LANs] out across multiple wireless networks would be a natural for us, particularly for our quality-control inspectors," he says. "Who wants to continually log on and log off?"

The required technology components are arriving piecemeal, however, so converged mobile nirvana isn't here just yet. As a first step, laptops and handheld devices are gaining embedded connections to both Wi-Fi and mobile WAN networks. This gives a device a higher probability of finding and connecting to a nearby wireless network, effectively extending the user's mobile coverage. Some converged service offerings are already available.

Aggregating Services

Network aggregation services from companies such as iPass Inc. and Fiberlink Communications Corp. represent an early move toward convergence. The wireless and wired network services they bundle and resell from carriers around the world are used with client devices that support connections to multiple networks.

The various services are accessible from a common client software interface provided by the aggregator, so users can access the best available network wherever they are. The aggregator maintains the multicarrier relationships and provides back-end security, billing and settlement services.

The mobile WAN component of these offerings isn't yet globally cohesive, however. "The wireless support of today's providers is not yet mature enough" to consider aggregators for worldwide mobile convergence, says Albert Hitchcock, CIO at Brampton, Ontario-based Nortel Networks Corp. The communications company supports 27,000 global users carrying mobile devices equipped with both Wi-Fi and cellular technology.

IPass and Fiberlink both support access to Wi-Fi hot spots around the world and resell Verizon Wireless' Evolution Data Optimized (EV-DO) services in the U.S. Outside the U.S., however, customers usually must buy mobile WAN services directly from individual providers. The aggregators' connection management client software will allow access to these networks, but managing the global mobile WAN carrier relationships is a key one-stop-shop benefit that isn't yet available internationally.

For seamless internetwork roaming once the desired network connections are in place, mobile client/server VPN software can be installed to let wandering users maintain sessions across network boundaries while retaining authentication credentials. Also, some hardware vendors, such as technology partners Motorola Corp., Proxim Wireless Corp. and Avaya Corp., are starting to offer premises equipment that handles Wi-Fi-to-cellular signal handoffs for voice calls. Carriers are also exploring services-based handoff alternatives.

Today, the mobile components needed for expanding coverage via roaming among multiple networks must be bought and deployed separately. Achieving smooth roaming among wireless networks with no break in a session requires IT to buy, install and manage multiple physical connections per device and deploy special client/server software to enable session persistence when roaming.

In addition, Wi-Fi-to-cellular handoff products and services leave IT departments speculating about the logistics of merging their networks with a carrier's in terms of service levels, troubleshooting and security.

"The subject of service-level agreements is fastidiously ignored by those who advocate mixed 802.11 and cellular solutions," says Doug Hill, an associate technical fellow and network chief architect at The Boeing Co. Carriers have approached Boeing about running a carrier-controlled mixed network where the carrier charges for voice-over-WLAN calls handed off to Boeing's internal Wi-Fi network at a lower rate than for the portion of a call moving over the cellular network.

But in a potential bridged Boeing-carrier infrastructure, neither party could monitor or troubleshoot across the public/private network boundary without sharing management information with the other. Not sharing the information with the carrier could degrade service quality, but doing so could introduce security concerns, Hill says.

This conundrum is one reason why Nortel, at least in the short term, will likely use premises-based equipment for such handoffs. The company is running trials of Wi-Fi-to-cellular handoffs with national carriers, testing the capability as both a premises-based and a carrier services function, Hitchcock says.

Another reason to house and manage the handoff equipment internally for now, Hitchcock says, is that "there's no single global carrier that can serve our 70-country footprint."

Notes Roger Entner, vice president of wireless telecom at researcher Ovum Ltd., "Your carrier can loan you another [modem] card if you [travel internationally]. Your other option is to rely on global Wi-Fi hot spots."

Roaming issues are why Atlanta-based United Parcel Service Inc. now does business directly with the world's five largest network operators. UPS

Continued on page 28

Dual-Mode Devices Ready to Roll

LAPTOPS, which are already shipping with embedded Wi-Fi connections, are now gaining integrated mobile WAN connections, too. Lenovo Group Ltd.'s Z-, T- and X-Series ThinkPads, for example, now ship with both embedded Wi-Fi and 400Kbit to 700Kbit/sec. EV-DO connections. Dell Inc. began directly integrating Cingular Wireless HSDPA/UMTS connections into its Latitude line of notebooks in late March; the connections are backward compatible with EDGE and GPRS networks throughout the world. Dell has also said it will integrate Verizon Wireless' EV-DO connectivity into its Inspiron and Latitude lines this year.

Dual-mode wireless handheld devices are also emerging. Users can choose from several dual-mode mobile devices for running data over either a mobile WAN or a Wi-Fi LAN, including units from Hewlett-Packard Co., Intermec Technologies Corp., Motorola and Psion Teklogix. Research In Motion Ltd. offers a BlackBerry that also supports voice/data over cellular or over an 802.11b Wi-Fi network, but not both.

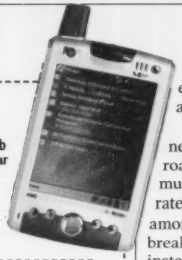
"It's crazy that you can't combine Wi-Fi and GSM in the BlackBerry," says Paul Limon, IT manager for the Americas at JCB. "We're all road warriors, and we all want [these services] on a single device for a single price and consistent and reliable speeds." When it announced its Wi-Fi-capable BlackBerry last year, RIM said that it would eventually support both cellular and Wi-Fi in a single device, but the company hasn't yet announced a delivery date.

Some manufacturers do offer dual-mode options for voice and data. Symbol Technologies Inc. offers a high-end MC70 starting at $2,000. The rugged, multifunction device supports Wi-Fi and cellular data and voice, scanning, push-to-talk and other capabilities.

In Japan, the NEC N900iL dual-mode handset is available for use with NTT DoCoMo Inc.'s third-generation service. Other devices enabling voice and data over both Wi-Fi and mobile WAN services are expected from Nokia Corp. and G-Tek Electronics Corp. this year.

– JOANIE WEXLER

Several Lenovo ThinkPad lines, including this Z-Series model, ship with 802.11a/b/g Wi-Fi and Verizon Wireless EV-DO cellular connections.



HP iPaq Pocket PC h6300 devices have internal 802.11b Wi-Fi and GSM/GPRS cellular connections, as well as Bluetooth connectivity. The iPaq h6315 works with the T-Mobile wireless network; the h6325 works with the Cingular Wireless network.

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Continued from page 26

drivers use the company's self-developed, laptop-based Delivery Information Acquisition Device (DIAD) to frequently transmit delivery status information to the corporate mainframe.

The latest DIAD version, introduced last year and in use by 40,000 drivers, supports dual mobile WAN connections matched to the services with the best coverage in the ZIP codes of a given driver's territory, explains John Killeen, director of global network systems at the worldwide delivery services company.

"The previous DIAD generation ran primarily on the Cingular network," says Killeen. "We found that 81% of our network problems related to roaming onto a Cingular partner's network. So now we have separate, direct contracts in place with all the primary carriers," Killeen says.

For now, UPS's roaming needs are confined to the mobile WAN. Salesforce personnel use EV-DO services and laptops; the company's warehouse-based personnel use Bluetooth finger-scanners that transmit package information to the company's 2,000-site Wi-Fi LAN and don't require cellular connectivity. The company has made a conscious decision not to include voice in the DIADs so as not to "interrupt the driver's day," Killeen adds.

Anthony Marano Co., a fruits and vegetables wholesaler in Chicago that turns much of its business around in a day's time, relies on voice-centric cellular/Wi-Fi convergence to survive.

"Eighty percent of our business volume involves customers physically delivering, e-mailing or faxing us an order for produce that's needed within 48 hours," explains Chris Nowak, IT director. As a real-time business, the company can't afford the delays associated with extensive voice mails and callbacks and desktop-bound e-mail, he says.

The company treats the nascent Enterprise Seamless Mobility system from Motorola, Proxim and Avaya as its production telephone network, even though it is technically still a pilot project. The year-old setup facilitates phone-call handoffs between the company's Wi-Fi network and the GSM cellular network from Cingular Wireless LLC, allowing buyers and sellers to remain in continuous communication with customers and vendors.

The premises-based equipment integrates Anthony Marano's Avaya IP PBX with its wireless LAN, the cellular network and a dual-mode handset — the Motorola CN620 — that "speaks" both 802.11a (5-GHz) Wi-Fi and quad-band GSM cellular.

Users can have a single phone number that reaches them on the campus Wi-Fi network, which extends across a space of 300,000 square feet, or on the cellular network when they are out of the office — provided that the number called is the IP PBX number, says Nowak. The system extends phone calls, four-digit PBX dialing and phone transfers to the Cingular network; employees use browser-based Outlook Web Access on the CN620 for e-mail, he says.

John DeFeo, corporate vice president of enterprise products at Motorola, says this setup is in a half-dozen trials around the world, but Motorola has decided not to deploy the CN620 as a commercial product. Rather, the company intends to enhance the handset and related system components with unified mailboxes, presence capabilities, enterprise-class instant messaging and possibly additional Wi-Fi radio support. The next-generation system is scheduled to ship in the first half of next year, according to a company spokeswoman.

While a range of converged devices are already emerging (see "Dual-Mode Devices Ready to Roll," page 26), some IT executives would rather see cellular service stabilized and coverage enhanced before getting still more sexy handset choices.

Dale N. Frantz, CIO at Auto Warehousing Co. in Tacoma, Wash., says, "[The] bane of my existence is that people love Treo [handheld] devices, because the push technology for 'always-on' e-mail access is unreliable. The network drops sessions and user credentials between cell towers and creates a significant support burden.

"It seems there haven't been many performance gains in cellular communications," adds Frantz. "I believe that stabilizing the network services is at least as important as delivering the next device that plays 'Yankee Doodle Dandy.'"

Wexler is an independent networking technology writer/editor in California's Silicon Valley. You can contact her at joanie@jwexler.com.

WAITING FOR WIMAX

RENT-A-CENTER, a retailer with 3,000 stores and 7,000 trucks in North America, is holding out for a single, ubiquitous mobile network technology. "It is very difficult to find a consistent service across the entire country," says CIO Tony Fuller. This is problematic because Rent-A-Center managers responsible for multiple stores can traverse three states in the same day, he says.

Fuller thinks mobile WiMax might solve the problem. The technology promises about 1.6Mbit/sec. per subscriber, outstripping the bandwidth of today's broadband cellular networks. Sprint Nextel Corp. is actively testing WiMax, and Intel Corp., a key developer of the technology, says it is also in trials with other carriers. Intel plans to embed mobile WiMax connections directly into laptop motherboards next year.

"We're looking for one technology rather than one provider," Fuller says. "If the user has to figure out what kind of connectivity is available, that's awkward. If it can be transparent, that's worth its weight in gold."

With the advent of mobile WiMax, Fuller hopes his company will need to train people on only one technology and use just one connection in each device. "If you add up the number of people I have to cover, times the cost of multiple network connections each, that gets [expensive]," he says.

Such benefits aren't guaranteed, however, considering that today's competing cellular service offerings, although based on the same technology, don't use compatible connection gear. "I haven't seen a product that supports both Sprint EV-DO and Verizon EV-DO in a single card," says K.C. Condit, Rent-A-Center's director of technical services.

– JOANIE WEXLER

TECH SPECS: Mobile/Wireless Technologies

TECHNOLOGY	AVERAGE THROUGHPUT	BUSINESS APPLICATIONS	AVAILABILITY/STATUS
CELLULAR/3G WIDE-AREA WIRELESS			
EDGE	75-135Kbit/sec.	Wide-area data access for highly mobile users (field service, public safety, sales force, road warriors)	Widely available domestically and internationally
1xEV-DO	400-700Kbit/sec.		Available in about three-fourths of the U.S.'s major markets domestically; somewhat available internationally
1xRTT	30-70Kbit/sec.		Widely available domestically
UMTS/ HSDPA	400-700Kbit/sec.		Available domestically in about 20 markets
1xEV-DO Rev. A	3.1Mbit/sec. downlink, 1.8Mbit/sec. uplink (shared)	Wide-area mobile data, voice and video access for highly mobile users	Services expected in 2006
WI-FI WIRELESS LAN			
802.11a	24-30Mbit/sec.	■ Mobile alternative to cabled Ethernet ■ Higher-speed alternative to cellular, with limits on coverage and range ■ Indoor enterprise mesh network to alleviate cabling limitations and costs ■ Outdoor municipal and public-safety mesh network services	Infrastructure products widely available; clients less pervasive
802.11b	6-7Mbit/sec.		Widely deployed
802.11g	24-30Mbit/sec. in 11g-only mode; 14-19Mbit/sec. with 11b clients		Widely deployed
802.11n	11Mbit/sec.		IEEE Draft 1.0 rejected as proposed standard; a final standard and commercial products are expected in 2007
WIMAX			
802.16-2004 (fixed)	70Mbit/sec. shared	■ Last-mile access with quicker provisioning than T1 ■ Backhaul between mesh networks	Standards-based services in trials with AT&T and others
802.16e/ 802.16-2005 (mobile)	1.6Mbit/sec. per subscriber for a 100-subscriber sector	Wide-area mobile data, voice and video access for roaming users	Poised for 2006 trial in the Sprint Nextel network; embedded notebook connections and network services expected in late 2007

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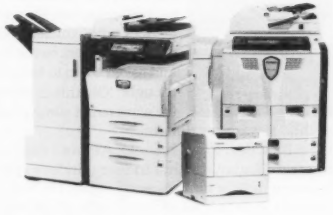

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*Source: Current Analysis, Inc.

Minds of Microsoft

BY GARY ANTHES

You might expect Microsoft Research to concern itself with the next version of Office, and you'd be right. But an AIDS vaccine?

THERE'S A JOKE at Microsoft Research that designing the next version of Microsoft Office is like ordering pizza for 100 million people. No matter how you do it, a few million of them are going to complain.

But Microsoft Research (MSR) General Manager Kevin Schofield shrugs off the difficulty of designing technology for mass markets. "It's our job to understand user differences," he says.

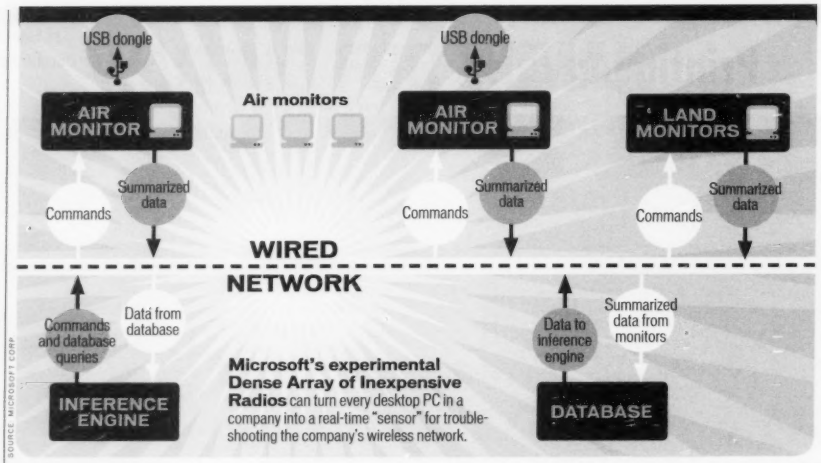
The research arm of Microsoft Corp. devotes considerable resources to the job. It has 750 researchers in 67 functional groups, from algorithms to wireless, in six labs, from Redmond, Wash., to Beijing. Schofield calls MSR "the world's largest computer science department."

Indeed, the scope of activities within MSR is stunning. A lot of the research is what you might expect, with computer scientists dreaming up a new widget for mobile communication, a new search algorithm aimed at topping Google or some new way to make Windows more secure. But MSR also engages in long-term fundamental research that might never produce revenue.

SCHOFIELD'S JOB: Understanding users.

For example, it is working with several medical labs on the application of pattern-matching algorithms — which it developed to recognize spam — to the design of AIDS vaccines. "The reason that HIV is so resistant to our immune system is because it gets in a host and throws off many new mutations, so your body can't get a good, robust immunity to it," Schofield says. That's the sort of strategy used by spammers. A trial vaccine based on Microsoft's algorithms has just begun in vitro testing.

FUTURE WATCH



Microsoft's experimental Dense Array of Inexpensive Radios can turn every desktop PC in a company into a real-time "sensor" for troubleshooting the company's wireless network.

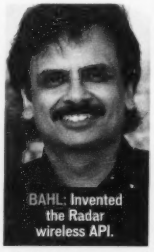
Tortoise or Hare?

Critics have said that Microsoft has been slow to respond to competition, such as open-source alternatives to its products and to upstart companies like Google. But Schofield says the company's huge research resources give it extraordinary agility. He says Microsoft, as a matter of policy, won't bid on government research projects — such as those funded by the National Science Foundation and the Defense Advanced Research Projects Agency — because they would tend to lock the company into a slow pace of research in certain areas. (He concedes that Microsoft doesn't need the money.)

As an example of Microsoft's agility, Schofield points to the company's development of its Web search engine, MSN Search. Two years ago, Microsoft outsourced search to Inktomi Corp., but it concluded that to survive against the likes of Google and Yahoo, it had to build its own search engine.

The search developers immediately turned to MSR, Schofield says. "They knocked at our door and said, 'We are about to start a sprint; come help us.' Our research team said, 'Wow, we have a lot of work to do, but we know how to crawl, we know how to index information, we know the user experience for search, and so on.' We pulled out 35 to 40 researchers from across those areas, across all our labs, and 12 months later, we launched an Internet-scale search engine."

Sometimes it works the other way, with the impetus for a new technology originating inside research. Victor Bahl, MSR's group manager for networking, said he was frustrated in 1997 when he joined Microsoft because there was no standard API that would allow him to easily program the wireless devices with which he wanted to work. "So I went to the vendors and asked them to help, and they thought, 'Oh, this is Microsoft; we want to get some money out of this.' It was very difficult."



BAHL: Invented the Radar wireless API.

So Bahl developed his own API and then used it to create Radar, the first indoor wireless system for locating mobile devices and people. He took it to the product groups at Microsoft and told them that if they could standardize his approach and persuade other vendors to do the same, it would greatly stimulate the market for mobile products. "That led to the effort that standardized wireless networks, and then people started building on top of that," Bahl says. "It provides a very extensive API for programming Wi-Fi cards." The native Wi-Fi capability that will ship in Vista at year's end stems from that work, he says.

Continued on page 32

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Continued from page 30

Sometimes the demand for MSR services comes more directly from customers. As the Windows operating systems have grown in size over the years, so have user complaints about bugs, crashes, complexity and vulnerability to tampering. Meanwhile, the time and cost to get out successive versions of Windows have soared.

LING'S CURRENT FOCUS: Chip multiprocessors.

In response, Microsoft formed the Programmer Productivity Research Center within MSR to develop optimization and defect-detection tools. In 2004, PPRC Director Amitabh Srivastava took "a very large fraction" of his team to the Windows product group in order to "revamp the engineering process" in Windows, says Daniel Ling, an MSR corporate vice president. The PPRC was renamed the Center for Software Excellence, or CSE.

"CSE tools and processes are used by product groups throughout Microsoft, including Windows, Office, SQL Server, Exchange and Xbox," Ling says. "CSE tools are playing an essential role in the development of Vista, the next generation of Windows, the most reliable and secure version ever."

Now, Ling says, MSR's quality and productivity specialists have turned their attention to the challenges of writing code for multicore processor chips. "We are trying to come up with ways to write parallel programs really efficiently, so it isn't so error-prone and difficult," he says. The results will be used internally but will one day end up in Microsoft's Visual Studio development tools, he says.

Even Cell Phones Get the Blues

If the programmability of multicore chips is at one end of Microsoft's research complexity scale, the Blue Rendezvous project may be at the other. Imagine two colleagues a few feet apart and armed with Bluetooth smart phones. You press the same button at the same time, and the phones establish an instant link through which you can exchange business cards or other contacts, documents or photos.

"The hoops you have to jump through to get devices to talk to each other — what's your encryption key, what's this, what's that? — it's practically impossible," says researcher Ken Hinckley. "This makes it really easy for users to do."

He concedes that a tool for swapping business cards is unlikely to ever be a killer app, but he says Blue Rendezvous represents the first research step toward easier and better interdevice wireless communication. "Let's say you are in a conference room and there's some information you want to share — maybe a syllabus that didn't get e-mailed to attendees," Hinckley says. "You could use this same technology between laptops to create a virtual pool that you just throw information into, and it just goes away when the laptops aren't near each other anymore."

Fellow researcher Raman Sarin sees the importance of this work even more broadly. "I always get suspicious when people talk about wireless technology, because it's defined by what it's not," he says. "It's something completely new that we haven't figured out yet. We feel like we are sticking our big toe in the pool of possibilities, of interesting ways to combine devices."

> **"We feel like we're sticking our big toe in the pool of possibilities, of interesting ways to combine devices.**
>
> **RAMAN SARIN,** SOFTWARE DEVELOPMENT ENGINEER, MICROSOFT RESEARCH

SOME OF MICROSOFT'S RESEARCH GROUPS

- Adaptive Systems and Interaction
- Advanced Compiler Technology
- Algorithms and Theory
- Communication and Collaboration Systems
- Community Technologies
- Cryptography and Antipiracy
- Cybersecurity and Systems Management
- Data Management, Exploration and Mining
- Database
- Digital Geographics
- Document Processing and Understanding
- Foundations of Software Engineering
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- Hardware and Communications
- Information Retrieval and Analysis
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- Internet Graphics
- Knowledge Tools
- Machine Learning
- Media Computing
- Media Presence
- Multilingual Systems
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- Text Mining Search and Navigation
- Visualization and Interaction
- Visual Computing
- Wireless and Networking

In the Labs

MSR has hundreds of projects under way in its six laboratories. Here are three of them:

DENSE ARRAY OF INEXPENSIVE RADIOS: DAIR is intended to help manage corporate Wi-Fi networks. It is based on two simple observations: In most companies, there are ample supplies of wired desktop computers with spare processor and disk resources, and USB-based wireless adapters are cheap and readily available. By connecting these adapters to the desktop machines, it's possible to build an inexpensive, user-transparent but effective array of "sensors" for performance monitoring and troubleshooting the corporate wireless network. (See diagram, page 30.)

The sensors send information about activity on the wireless net to an "inference engine" that analyzes it and issues alerts and other types of responses. An experimental DAIR network at MSR has been programmed to detect denial-of-service attacks as well as rogue connections to the wireless network, says researcher Jitendra Padhye. Future applications include site planning, load balancing and recovery from failed wireless access points, he says.

Researcher Alec Wolman says DAIR is an improvement over approaches that rely on sensing from wireless access points, which are less numerous and less powerful than desktop machines, and dedicated equipment such as spectrum analyzers, which are very expensive.

MOBILE NOTE-TAKING: The idea is to use the microphone, camera and GPS sensors that are appearing in mobile telephones to capture the spontaneous information – text, image, audio, video – that swirls around us all the time. But it does more than record information; it also issues time- and location-dependent reminders and alerts. You might say to it, "Take notes: Remind me to call John at 7 p.m." The Windows Mobile smart phone recognizes the keywords "remind" and "7 p.m." and adds the note to its scheduler. At the appointed time, the smart phone reminds the user to call John and then dials his number when the user responds, "Call John."

Researcher Zicheng Liu says that if the user has told the device he needs to buy bread, it can use its GPS unit to issue an alert when he's driving by a grocery store. He says a later prototype might allow it to act on prior user experience and issue the alert only when the user is near the store he habitually shops at. And the phone will be able to share notes with the user's spouse, so if she buys bread first, the reminder is automatically deleted from the user's mobile device.

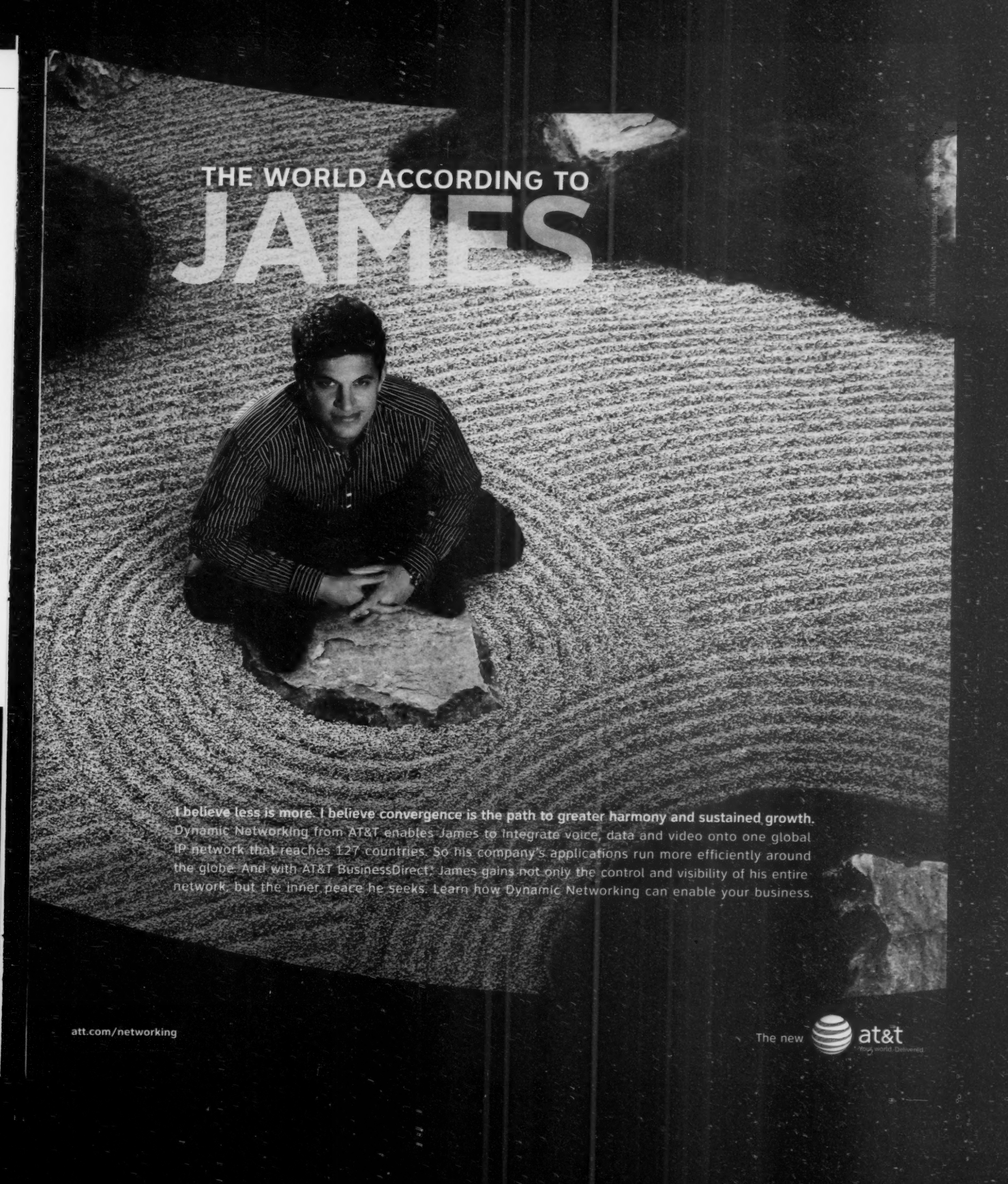
SUREMAIL: Imagine booting up your PC one morning and hearing, "You've lost mail!" In a controlled two-month experiment using a variety of e-mail systems at 42 companies and universities, Microsoft found that one in 140 e-mail messages disappeared without a trace. These "silent losses" have a variety of causes, including disk crashes, poorly executed server upgrades, overly aggressive spam filters and just plain overload.

With SureMail, when a message is sent, a small, tamperproof notification is posted to a table somewhere on the Internet. These notifications can be kept on a dedicated server or can be distributed among cooperating clients on a peer-to-peer basis. E-mail recipients periodically query the table and match notifications with messages received. If they find notifications for which there is no message, they know the message has been lost.

Researcher Sharad Agarwal says the scheme has no impact on existing e-mail systems, maintains key e-mail properties such as privacy and spam defenses, and places no demands on users unless they are notified of a loss.

A single company adopting SureMail wouldn't get much benefit from it, says senior researcher Venkata Padmanabhan, "but it could be used by ad hoc groups of clients forming a peer-to-peer cloud." In any case, he says, SureMail is a "very early prototype."

– GARY ANTHES


THE WORLD ACCORDING TO
JAMES
I believe less is more. I believe convergence is the path to greater harmony and sustained growth.
Dynamic Networking from AT&T enables James to integrate voice, data and video onto one global IP network that reaches 127 countries. So his company's applications run more efficiently around the globe. And with AT&T BusinessDirect,® James gains not only the control and visibility of his entire network, but the inner peace he seeks. Learn how Dynamic Networking can enable your business.
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Saying You're Wrong Can Feel So Right

Our security manager had a bad feeling about all-in-one security devices, but she bought them anyway. By C.J. Kelly

SECURITY MANAGER'S JOURNAL

I HAD A moment of brilliance this week, and it had to do with realizing that I had made a serious mistake. Yes, admitting you made a mistake can be considered brilliant if accompanied by the fix.

You may have read the article in which I wrote that I anticipated this particular problem ["Expecting All-in-One Security Headaches," March 20]. The state agency I work for purchased all-in-one security devices that promised to provide firewalling, intrusion prevention, virtual private networking and network monitoring. I had a gut instinct about this not being such a good idea. So why did I do it?

There were many reasons, including the following: This initiative was sponsored by the state and recommended by the state's chief security officer; the vendor of the device had a sole-source contract with the state; and the state-level IT guys were paying for and hosting the database report server. It seemed like the right move politically. Now I have some serious backtracking to do, and I don't admire myself for bending to the pressure. I should have trusted my gut.

As I said previously, I don't believe that one security device can do so many tasks. If your firewall can give you the ability to run a VPN, that's great. But don't make it responsible for intrusion prevention, spam filtering, Web content filtering and everything else you can think of. After all, you don't expect your dishwasher to wash the clothes. Why hasn't someone come up with an all-in-one cleaning appliance? Because it would be some sort of crazy contraption, running on wheels so it could maneuver around the house as it mops the floors. It would have arms to do the dusting. In the thing's belly would be a clothes washer/dryer combo, and it would feed itself the dirty dishes, wash them and send them out the other end. Can you imagine if it malfunctioned and put the dishes through a spin cycle? While I would love the ability to program my entire home to take care of itself, I realize that means programming individual devices to do very specific things.

OK, I hear you saying, "Hey, lady, we are talking about software modules, each programmed to do specific things." But I counter with, "Hey, fella, the software is only as good as the programming, and it's sitting on one device."

I know that some of the big, established companies have combined functions into one device, but we aren't talking about one of the big players. The vendor in this case is not exactly a known quantity. It may have gotten a sole-source contract for these types of security devices in the state government in one of those mutual back-scratching deals. Then the recommendation went forward from the office of the chief security officer to all the state security officers. Did I mention that the CSO no longer works for the state?

> Here's the lesson: Tell the truth, and admit when you have made a mistake. People usually respect that.

Besides not knowing who these guys are and therefore being unable to check their track record, I am frustrated by the fact that they have provided no documentation other than two pages on how to turn the devices on. This doesn't happen with a big vendor. Cisco, for example, provides copious amounts of technical documentation.

I've asked the mystery vendor for more documentation, and the people there keep trying to placate me by saying, "Let us know when you want to install, and we will walk you through it." I don't want them to walk me through it. I want them to provide me with what I need and then get out of my way.

Making Things Right

So, what do you do when you've made a big mistake? Step 1, admit you were wrong. Don't lay blame or pass the buck. Come on, say it out loud with me: "I was wrong. I made a mistake. Now I must make things right."

"Making things right" means figuring out how to repurpose the devices. I have eight of them. I could pack them up and ship them back to the vendor. But the devices are basically just appliances running open-source software for the various components, like Openswan for IPsec VPN functionality. Why can't I reconfigure them with Snort and use them as network sensors?

I wanted real firewalls, not a do-it-all (and maybe do-it-all-poorly) appliance. But selecting the right firewall and implementing it was not my biggest concern. I was going to have to go to my boss and explain to him why these appliances are too risky to implement and how I would like to repurpose them. Then I would have to get him to approve the purchase of several commercial firewalls. Ouch.

I took the plunge and said to my boss, "I made a really big mistake, and I need your help." He closed the door to my office and sat down. "No," I went on, "it's not a personnel problem; it's a technical problem." He seemed to relax a bit, and I went on to say that I had zero confidence in the devices or the vendor that sold them and wasn't willing to install them inline and jeopardize the stability and performance of our networks. He immediately responded, "It's not your fault. I authorized the purchase and told you to buy eight of them without allowing you to test one in our environment first." What a relief!

With my boss demonstrating such open-mindedness, I was able to explain why the devices weren't suitable as enterprise-class firewalls and lay out my plan to repurpose them as intrusion-detection sensors. He liked the plan and authorized it.

Here's the lesson: Tell the truth, and admit when you have made a mistake. People usually respect that. Hopefully, you have a great boss like I do.

WHAT DO YOU THINK?

This week's journal is written by a real security manager, "C.J. Kelly," whose name and employer have been disguised for obvious reasons. Contact her at mscjkelly@yahoo.com, or join the discussions in our security blogs: **computerworld.com/blogs/security**

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SECURITY LOG

Portable Storage's Risks Not Heeded

Although 91% of businesses believe that portable storage devices such as iPods and USB memory sticks pose a large security risk to corporate and network integrity, only 34% have taken steps to prevent their unauthorized use on the corporate network. Those are some of the results of a survey of 100 companies on endpoint security conducted by Centennial Software Ltd. Three quarters of the companies said they see data theft as the greatest risk.

New Spam King

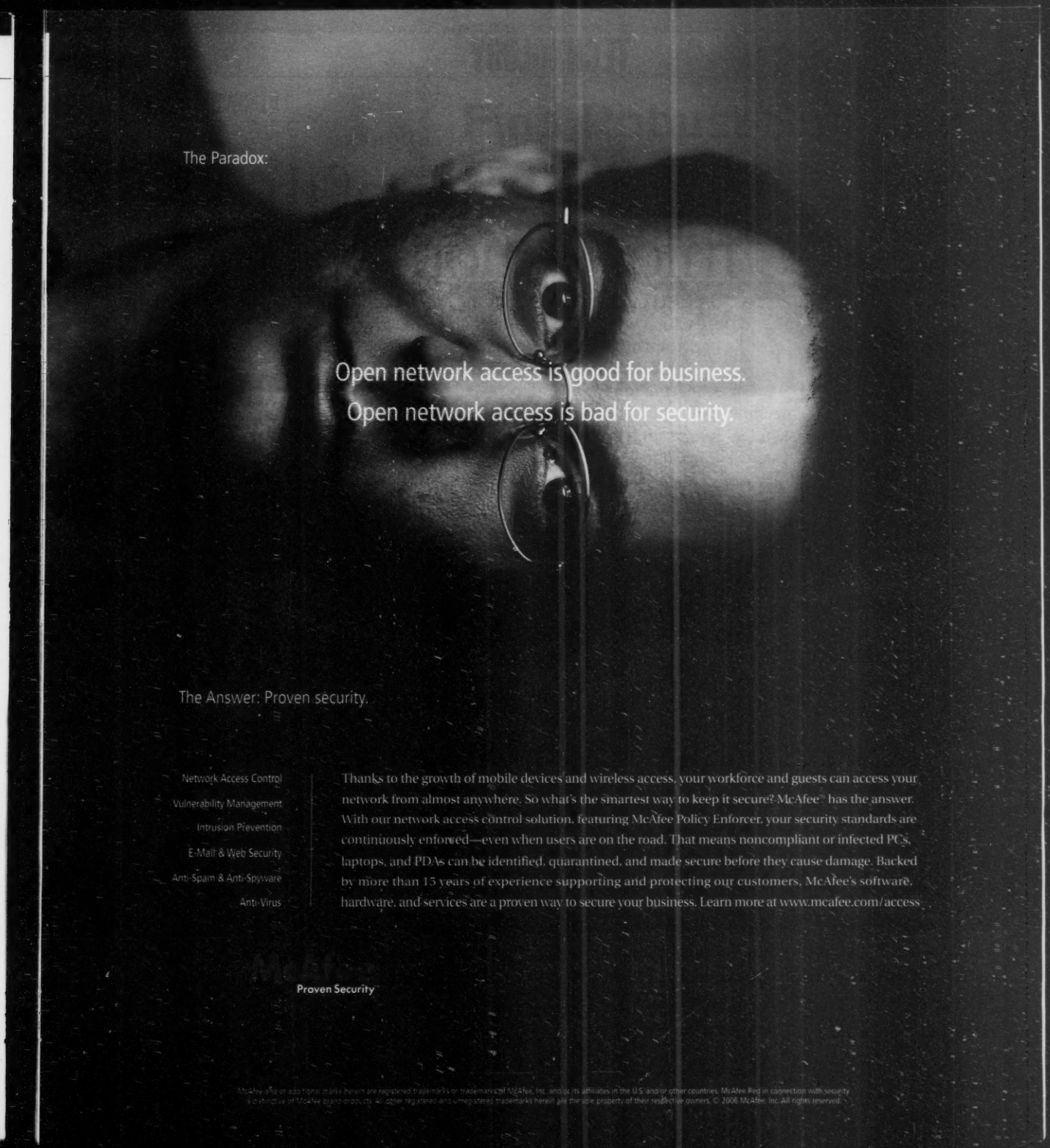
More spam is relayed through Asia than via any other continent, a sharp difference from two years ago, when the U.S. accounted for over half of all spam sent to the world. According to a Sophos PLC report on the top 12 spam-relaying countries for the first quarter of 2006, Asia accounted for 42%.

Free Site-Hack Monitoring Offered

Web site monitoring company MyWebAlert has launched a free service that will visit registered sites every five minutes and verify that they have not been attacked or hijacked. The service is aimed at small companies and educational institutions that can't afford the company's regular, round-the-clock service.

P2P Case Settled

The Federal Trade Commission has settled with Cashier Myricks Jr. of Los Angeles, who deceptively claimed that users of peer-to-peer file-sharing programs who joined his Mp3downloadcity.com site would be able to transfer copyrighted materials without violating the law.


The Paradox:
Open network access is good for business.
Open network access is bad for security.
The Answer: Proven security.
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Vulnerability Management
Intrusion Prevention
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BRIEFS

OpenPages Updates Financial Controls

■ Regulatory compliance software maker OpenPages Inc. has released Financial Controls Management 4.0 (formerly SOX Express). It includes support in six languages to help companies comply with regulations similar to the Sarbanes-Oxley Act in a number of countries, including France and Japan. OpenPages FCM 4.0 pricing begins at $2,000 per user.

Lenovo Rolls Out Widescreen Laptop

■ Lenovo Group Ltd. has introduced a 4 lb. laptop for home and business use that features a 12-in., 1200-by-800-pixel screen. The widescreen Lenovo 3000 V100 is available now. Pricing starts at $1,099 for a unit with an 80GB hard drive and a 1.66-GHz dual-core processor.

Enterprise Search System Upgraded

■ Recommind Inc. has launched Version 4.2 of its MindServer enterprise search platform. MindServer 4.2 is designed to transform large volumes of files, documents and messages contained in enterprise applications into a manageable format. MindServer 4.2 consists of two components, Enterprise Search and Categorization. Each starts at $75,000 per processor.

Compuware Improves Load-Testing Tool

■ Compuware Corp. unveiled a new version of its performance-testing tool that's designed to increase productivity. Compuware QALoad 5.5 is an automated load-testing tool for Web, Java, .Net and packaged enterprise applications. New features include a wizard to simplify the creation of rules. The tool also includes improved diagnostics, enhanced remote monitoring for servers and enhanced reporting. Compuware QALoad 5.5 is available now and costs $50,000 for 100 virtual servers; the price includes 12 months of maintenance.

MARK WILLOUGHBY

In Search of the Information Kilowatt

THE DA VINCI CODE recalls the human fascination with the elusive Holy Grail and its promise to answer a lot of big questions.

Electronic souls catch a glimpse of the information Holy Grail revealed in the virtual machine, which offers the promise of a transparent and seamless information processing utility where historic system, storage and networking complexities disappear.

MARK WILLOUGHBY, CISSP, is a 20-year IT industry veteran and journalist. Contact him at **milloughby@earthlink.net.**

Microsoft put an exclamation point on the virtualization marketplace with the April 3 announcement that future versions of its virtual machine products will support Linux. The brave new world of virtualization makes bedfellows of Microsoft and proprietary software vendors like VMware with Xen and the open-source community.

This electronic ménage, a virtual alliance and not a traditional partnership, offers the collaborative benefits of federated information systems, swapping cross-domain intellectual DNA to simplify information services. Strategically, like shifting tectonic plates, the information marketplace released megatons of accumulated stress with Microsoft's announcement and moved closer to the information Holy Grail: information as a utility service.

The virtual machine marketplace is atop every IT prognosticator's list of hot growth technologies. The economic and business benefits of abstracting the information layer from the operating systems and hardware, and eventually the network, are addictive. It's as if the fuel-efficiency ratings for gas-guzzlers doubled at no additional cost.

Freed from the tedium of managing arcane parameters for operating systems, storage and platform configurations, we humans can do more information processing with less horsepower. Moore's Law and the rate of technological change get juiced up a notch, and the virtual opposable thumb is freed to develop new tools for problems that somebody will pay for.

Before we get too carried away, however, a few big hurdles remain. Virtualization does a much better job of masking complexity and securely applying computing horsepower behind a firewall than do compute grids. But it does not give us the information kilowatt.

Before you can plug all your information appliances into a wall socket — or connect to virtual information services over a wireless signal — the marketplace needs a common definition for a unit of information service. It needs the information equivalent of a kilowatt of electricity to mask the complexity of what happens behind the scenes in creating, transforming and delivering the information service.

The information kilowatt provides the economic and technical yardstick for measuring efficiency and providing the marketplace with choices. A mature information marketplace is analogous to the one for deregulated electricity, in which consumers choose among differentiated generators powered by wind, solar, coal or nuclear energy for a commodity service. Consumers weigh their buying decisions against the cost per information kilowatt.

The virtual machine's ability to abstract information services from the underlying operating systems, hardware and networks takes us a step closer to the information kilowatt. The problem of information processing, storage and distribution can be bundled into a virtual machine as the common denominator.

Obstacles remain on the path to virtualization, however. Cynics may say that the devil is in the details and that Microsoft dropped its virtualization bombshell in order to avoid further antitrust problems. It still has the latitude to create a virtual system that falls short. Maybe, but there are plenty of smart people in Redmond who have read the seminal 1997 book by Clayton Christensen, *The Innovator's Dilemma*. This work introduces disruptive technologies that redefine markets and the very high risks incurred by not responding to the changes taking place.

It would take a huge investment in leapfrog innovation on Microsoft's part to offer a better alternative, especially when it's playing catch-up with critical virtual technologies like hypervisors. Microsoft is faced with a Hobson's choice. Better to play by the new virtualization rules, even if the risks to Microsoft are greater than those posed by multimedia players, Web browsers, office automation products or a previous virtual machine based on Java.

There also is the huge and costly issue of the installed base of older hardware platforms that lack the new CPUs needed to support the virtual middleware. There may be some legal speed bumps as vendors examine and negotiate intellectual property agreements for the storage volume technologies needed to support virtualization.

Those issues will be swept aside by a marketplace seeking huge virtualization benefits. The promise of IT managers being able to hot-swap heterogeneous systems in real time, like RAID disk drives today, and without disturbing applications, is worth billions. That, combined with an enhanced ability to select platforms strictly on a cost-effectiveness yardstick, rewrites the rules. ◗

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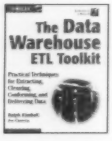

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Toughest Tasks
It's the tough times that teach you how to lead. Five top IT executives share the most challenging experiences of their careers and the lessons they learned. **PAGE 42**

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If you haven't yet suffered through a software audit, just wait, says attorney Robert J. Scott. Here's what you need to know to survive one. **PAGE 48**

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When Life Intrudes On the Workplace
The real measure of a manager isn't found in metrics, productivity or profit, says Paul Glen. When life intrudes, it's a boss's humanity that makes the difference. **PAGE 50**

Remote Control

How Marriott Manages Outsourced Projects

Project managers **MICHAEL CULLEN** (left), **KENT PETTY** and **YUTTA SHELTON** are a "three-legged stool" leading a worldwide financial management project at Marriott International.

CHRIS HARTLOVE

By Kathleen Melymuka

YOU CAN OUTSOURCE A PROJECT, but you can never outsource management of a project. As outsourcing has grown to be a major tool in business projects, that maxim has been touted widely. But the devil's in the details. How, exactly, do you manage an outsourced project?

The folks at Marriott International Inc. are betting that they know the answer, and it may be simpler than you think. "An overriding principle at Marriott is that how we run an outsourced project and how we run an insourced project is the same," says Howard Melnick, senior vice president of information resources application services.

The Bethesda, Md.-based hotel management company has developed a set of project management processes to assign and track all project tasks and standardize metrics and reporting, regardless of who does the actual work.

A case in point is OCEANS (One Corporate Enterprise Advanced New-world System), a multiyear, multimillion-dollar project to transform Marriott's long-standing practice of managing finance and accounting

processes at the hotel level. The multiphased initiative will ultimately deliver a single, worldwide financial overview using a unified, scalable application architecture and PeopleSoft and Oracle financial software. Accenture Ltd. provides most of the IT services.

Marriott doesn't see outsourcing as a way to cut costs or get rid of a problem. It's a way to add temporary expert staff and save time on a project like OCEANS, "where I need 100 people, but I won't need them forever," says Melnick.

GOVERNANCE

Marriott's project methodology is built around accountability and governance, so an outsourced project is never farmed out and forgotten. "And it's not like we have someone just watching the outsourcer work," Melnick says. "We are ultimately accountable for the project, so to that end, we work with the outsourcer to get it done."

That collaboration starts at the top. "We have a very formal governance process," Melnick says. Governance of the OCEANS project starts with a high-level steering committee. It is made up of Melnick; Pam Murray, executive vice president and general manager of enterprise accounting services; and Paul Chiu, the Accenture partner in charge of the Marriott/Accenture relationship. "We make up the three-legged stool of governance," Melnick says. "We take that model and drive it down through the organization."

At the next level are the top project managers. Kent Petty, vice president of information resources application services, is the IT person accountable for all financial systems. Michael Cullen, vice president of finance and accounting, oversees the business component. Yutta Shelton, a partner at Accenture, manages the outsourced leg.

On a large project like OCEANS, the steering committee meets as needed but at least monthly. "And we might have to get together at 7:00 in the morning because we have an urgent issue," Melnick says.

But most issues are resolved before they get to his level. "We'll start with the project managers [of individual projects within OCEANS] and say, 'You have three business days to get this resolved.' If they can't, we bump it up a level to Kent, Michael and Yutta. If they can't get it resolved, it comes to me, Pam and Paul."

The three-legged stool is pretty close to a partnership of equals. "My focus is to ensure that we maintain the integrity of the original business case," says Cullen, the business lead. "But we work in tandem. There were times when they would meet with senior finance people and I wouldn't be there, and there were times when I met with the architecture team and they wouldn't be there."

Cullen explains how each leg of the stool works. "These initiatives are far-reaching in terms of who you need to engage," he says. "Finance touches just about every system and part of the organization. So there are dozens and dozens of people in the IT group who need to be engaged. Kent provides that."

For specific Oracle or PeopleSoft expertise, "Paul and Yutta can reach into their bench of expertise, whether for a week, a month or a year," he adds.

Cullen's role is to engage and align the finance community.

"It's pretty seamless," he says. "I judge the success of a project partly on whether, if an outsider came in, he couldn't tell the difference between a Marriott IT person, a business person and a consultant."

CULTURE

The apparent simplicity of the three-legged stool is deceptive. It means that an outsourced project takes just as much time and effort from IT and business management as an in-house project. And in one area — personnel — it takes even more.

Marriott typically chooses the outsourcer through a comprehensive, competitive request for proposals (RFP) process. Among the most important factors it considers is cultural fit. "You have to pick the partner that is culturally aligned with your organization," Cullen says.

That goes for the individuals as well as the company as a whole. "We approve all the team leads, and we interview all the key people," Melnick says. "Although everyone they may submit may be competent, the chemistry is also important."

The result of this attention to personnel upfront is long-term relationships with individuals that sometimes transcend specific projects. For example, as an Accenture employee, Shelton has been working with Marriott for years.

"We get a really good cultural fit, and we get continuity as well because we're not retraining people," Melnick explains. "We're looking to create a strategic relationship [with the outsourcer], not a one-off transaction. We hope this is a win for both parties. It could be a multiple-year relationship, so you think about things in a longer context — much different than if it were one transaction."

Once an outsourcer is engaged, Marriott spends time on team-building.

Many of the OCEANS team members recall a team-building exercise for an earlier project with Accenture. They all went to Annapolis, Md., where mixed crews of IT, business and Accenture people were given small sailboats. But it wasn't a race; the goal was to get all the boats to cross the finish line at the same time.

"Seven years later, people still remember it," Melnick says. "It created a sense of unity around a common set of goals. It doesn't really help me to say, 'Great news: Marriott is delivering on all their commitments, but the outsourcer isn't.' "

How closely do the Marriott project managers work with the outsourcer? "I know Yutta's kids' names and birthdays," says Petty, the IT lead. "There's quite a bit of interaction. I've had two meetings with her today already."

Shelton says Marriott's skin-in-the-game approach makes a big difference. "Having the same core values and the same degree of accountability at all levels of all of the organizations is key," she explains.

ACCOUNTABILITY

Marriott's integrated view of the outsourcer's role eschews the conventional wisdom of budgeting *x* percent of a project's funds for outsourcer management. "We don't think of it as a straight percentage," Melnick says. "We think of it more as, 'Do we have the right roles covered?' "

Having the roles covered is shorthand for what's at the heart of Marriott's project management process: accountability. The company's understanding of what accountability means and its processes to ensure it allow the outsourcer to be integrated seamlessly into the project.

Accountability starts with an end-to-end project plan from business case to postmortem, and the outsourcer is intimately involved. "You need to bring in the outsourcer as early as you can to help build out the project plan," Melnick says. That plan includes components from technology to training and change management, "because you could have the technology work perfectly and not get the benefits," he adds.

Then the planners dive down into specific tasks where accountability is assigned, confirmed and monitored through a simple spreadsheet called the RACI (short for "responsible, accountable, consult, inform") document. Marriott sees those as the key roles in any project. In the course of planning, Petty, Cullen and Shelton consider each task and determine who will ultimately be accountable for getting it done, who will be responsible for actually doing it, who must be consulted along the way and who needs to be informed about it. This prevents internecine squabbling and finger-pointing and makes it far less likely that toes will be stepped on or that tasks will slip in the course of the work.

"It's a way of thinking," Melnick says. "We're used to working in this way, and it clears up a lot of misunderstandings."

A Sharper Outsourcing Skill Set

What kinds of skills are needed to manage an outsourced project?

"Nothing dramatically changes, but I think everything ratchets up a step," says Howard Melnick, senior vice president of information resources application services at Marriott International. He and IT project lead Kent Petty highlight three areas where managers of outsourced projects need to be a step above their peers.

COMMUNICATION: "To influence someone remotely is different than when you're sitting right here and drawing them a picture," Petty says. "It gets back to trust and doing what you said you were going to do. You need a project manager who doesn't have to have everyone under his thumb to influence them and get the work done."

CULTURAL SENSITIVITY: "You need to not only understand the cultural differences between the two organizations, but also cultural differences around the world," Melnick says.

But more mundane differences are also important – such as those between Marriott's Bethesda, Md., headquarters and the Accenture team's home base in Atlanta, Petty says. "It's as simple as knowing that Marriott has holidays that Accenture may not have. It's knowing that you can't read body language on the phone, knowing that traffic patterns are different in Atlanta so sometimes they're late or we're late for a call. You need to consider all that and be flexible."

BUSINESS KNOW-HOW: Technical skills are a given, Petty says, "but we need a certain amount of business acumen. The business leadership here doesn't have to understand what I'm doing, but I have to understand what they're doing and why – and the downstream and upstream impacts."

– KATHLEEN MELYMUKA

STANDARDS

Once the tasks begin, Marriott's processes and methodologies require that no matter who does what, it will all be done to the same standards. Melnick calls this "one of the key components of our success. You have the same mechanisms for how you report, how you manage the project, how you measure success," he says.

"We manage by our metrics; we live and die by our numbers," Petty adds.

Having strong methodologies heads off a common problem with outsourcing, says John Whitridge, vice president of information resources enterprise architecture at Marriott. "If this methodology didn't exist, when you bring in someone from the outside, they would bring their own. But because this is so institutionalized, there's no vacuum to fill."

The result: "When you manage projects, it's a lot more consistent," he says.

One of those methodologies is earned value accounting. Marriott breaks down internal and outsourced projects into manageable chunks and does regular earned-value assessments. When an assessment shows slippage, the project managers determine what has changed, why and how they can make a course correction.

All Marriott projects also use identical metrics and reporting vehicles, such as scorecards. "We have that consistent management, project after project," Petty says. "I don't have to figure out which tool I'm using for this project, which methodology is prescribed. Whether the project is in the finance group, the HR group or the sales group, it's consistent across the company."

That consistency is largely thanks to Toni McDermott, vice president of enterprise architecture process and security domains, who designs the training and processes that enable consistent application development. "It's all about standard, repeatable processes," she says. "We wanted to provide better customer service, be more efficient, deliver a similar customer experience, deliver on time on budget and hit quality."

To do that, her group developed a tool kit that, through standard terminology, processes and training, has changed the project management culture. "We wanted something that would work on a small project and a large project, insourced and outsourced, custom or [commercial off-the-shelf]. So it has a lot of flexibility, but between the language and the templates and standards, it's given us a way to communicate across the organization," she says. "And having these templates really speeds things up."

The people on the front lines of project management say Marriott's three-legged-stool approach works. "I've been in this type of role for 10 years, and in the first half of that time, we didn't use this model," Cullen says. "There's a significant difference in what I experience."

While the relationship between IT and the business has always been strong, he says, "the difference is how we view the outsourcer: They're more than a vendor; they're a partner. Their success is our success. If you view them as a vendor and you try to manage margins, it's a different mentality.

"Having the three-legged stool brings deep subject-matter expertise and the deep relationships required to engage the appropriate stakeholders," he says. "The combination is critical."

Accenture's Shelton agrees. "Once we start the race, there is only one color jersey," she says. "If somebody falls, we pick him up and keep on going. We all have to cross the finish line to win."

Prologue to Success

Mark Jeffery, associate professor of technology at the Kellogg School of Management at Northwestern University, says Marriott is doing lots of things right in how it manages outsourced projects. He says, however, that for less-savvy companies, "the seeds of failure are sown early."

"When I think about managing outsourcers," Jeffery says, "most of the problems are because the contract wasn't well written in the first place. You have to realize that the contract *is* the relationship."

Here are some points to consider to ensure that you get off to a good start:

- A wide variation of bids on your outsourcing RFP indicates that the bidders don't agree on what your proposal requires. Rework your proposal, because the requirements aren't clear.
- In the contract, specify the kind and quality of the people needed and note that you will interview and approve key people.
- Choosing the outsourcer before you negotiate the contract will leave you with no leverage. Negotiate with the top two companies vying for the job, and then choose one.
- You should design every project to be measured. Clearly specify deliverables, how you will measure them and how the outsourcer will be paid.
- Fixed-price contracts work well when the outsourcer has done similar jobs before. Groundbreaking projects, however, may require many changes along the way. If the outsourcer feels financially squeezed, it may take its best people off the project and quality could suffer. In that kind of project, a cost-plus payment arrangement makes more sense.

– KATHLEEN MELYMUKA

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Toughest Tasks

By Judy Artunian

Five IT chiefs talk about the most difficult challenges they've ever faced at work – and the lessons they learned.

Systems fail. Employees burn out. Vendors disappoint. But it's those tough times that teach you how to lead. Five Fortune 500 IT executives recently told us what they learned from the most challenging experiences of their careers.

1

JIM LESTER
Senior vice president, global technology strategy
Aflac Inc., Columbus, Ga.
Business: Insurance provider

Four years ago, Lester was called on to rescue a multimillion-dollar core business application project that was floundering. He performed a technological reassessment, redefined the project's goals and brought in new managers. He also had to make the difficult decision to replace a large, high-profile vendor. These moves helped Lester get the project back on track about eight months later. But in the interim, the pressure never subsided. "The stakes were very high. It was an expensive, complicated, international project," he says.

LESSONS LEARNED:

- "Don't just preside over large projects; proactively stay ahead of them," says Lester. Focus on four core principles: people, schedules, budgets and measurements. "If one of the four gets out of whack, you need to know beforehand," he says.
- Get tough. If one milestone in a large project is missed, it can trigger a domino effect that can ultimately cripple the project. "Find out who missed the milestone and replace them," he says. "Call a fact a fact. Quit worrying about hurting people's feelings. I sound like a hard case, but there has to be pain felt in the corpus of the organization in these large projects."
- Establish a performance-based relationship with your vendors. There is too much at stake in large projects to proceed based simply on trust.

2

DENNIS FISHBACK
Senior vice president and CIO
Calpine Corp., San Jose
Business: Energy supplier

You know that you are in the midst of the "IT perfect storm," Fishback says, when an unexpected series of hardware and software failures leaves you scrambling to get a critical business operation back on its feet. Last summer, a malfunctioning storage device kicked off one such storm at Calpine. The snafus that followed caused major system outages, which threatened to cripple the company's energy-trading operation.

While working on the problem, Fishback's team had to calm the company's traders, who balked at reverting to manual work-arounds. "You do that by getting personally involved," he says. "I got on a plane to Houston to show that I was engaged" in fixing the problem.

LESSONS LEARNED:

- Maintain a close working relationship with vendors at the executive level. "You should know who to call to get a personal commitment from them to solve the problem," Fishback says.
- Stay personally involved.
- Show that you have confidence in your staff and third parties who pitch in. "You have people working around the clock for days on end. Make them feel like they are part of the solution, not part of the problem," Fishback says.
- Provide regular status reports during a crisis to executives, department heads and others who may be affected.
- Start now to manage your internal customers' expectations. "Keep them realistic. The systems aren't going to be up 100% of the time. They need to practice their manual work-arounds routinely," says Fishback.

3

ROB CARTER
Executive vice president and CIO
FedEx Corp., Memphis
Business: Transportation and business services provider

Eighteen years ago, Carter was working on his MBA when he was asked to direct the development of a large-scale billing system at a telecommunications company. The difficulty of the project was compounded by the need to keep pace with business requirements that changed while the system was being developed. There was also the challenge of adapting the legacy code, with all of the surprises it contained.

"There were huge pressures on us, with a lot of fault being placed on the IT team for dates being missed," he says. "I saw the other side of the equation, where we were trying to build something that was constantly changing."

Bolstering his team's confidence was key to meeting those challenges. "I spent a huge amount of time celebrating our successes," Carter says.

LESSONS LEARNED:

- Acknowledge that "big bang" system development isn't a wise business strategy. It's better to break up your deliverables into increments.
- Remember that legacy applications often contain solid components and code that is salvageable. "It needs to be re-engineered, it needs to have a new front end or user interface, it needs some rearchitecting, but you don't have to start with a clean sheet of paper," Carter says.
- Give your team a chance to blow off steam during an arduous project. Carter arranged for his employees to indulge in fishing, go-cart racing and paintball fights.
- Stand up for your team. "Fight to make sure that your team has the opportunity to lead a balanced life," he says.

When Tragedy Strikes

According to FedEx CIO Rob Carter, the biggest leadership challenges are those you face when your personal life is in turmoil. He knows. In 1997, Carter, then FedEx's vice president of corporate systems development, had just landed in Hong Kong on a business trip when he got word that his 9-year-old son, Philip, had died unexpectedly.

After that shattering loss, "just showing up at work and figuring out how to continue to keep my head up and be a leader was the most difficult 'assignment' of my career," he recalls.

The heartache made him a more compassionate manager, he says. "We all have seasons in our lives when we need to be surrounded and even protected. That's something I understand, as a manager, better than ever before."

TOM SHELMAN
Vice president and CIO
Northrop Grumman Corp., Los Angeles
Business: Defense contractor

When Northrop Grumman acquired three companies in 2001 and 2002, Shelman learned some hard lessons about bringing new employees into the fold following a merger. After experiencing what he called "significant employee engagement issues" early on, Shelman hired an independent consulting firm to interview the new employees and gauge their enthusiasm. He learned that some weren't thrilled to join a new corporate family, especially if their company had already been acquired in the past. "It's humbling to find out what people really think versus what they tell you to your face," he says. These insights prompted Shelman to change some of his strategies.

LESSONS LEARNED:

- Employees in large companies are more likely to follow the lead of their managers, not their executives. Get the management team's support early.
- At your first meeting with managers, find out how they feel and address their concerns. "Mostly just by their knowing that we cared and were listening to them, we'd get the management team engaged," says Shelman.
- If employees are gung-ho about joining your team but their manager resists, consider replacing the manager. "If the manager isn't behind you, you have 40 people who aren't behind you — even if they want to be," Shelman says.

KURT WOETZEL
Executive vice president and CIO
The Bank of New York Co.
Business: Financial services provider

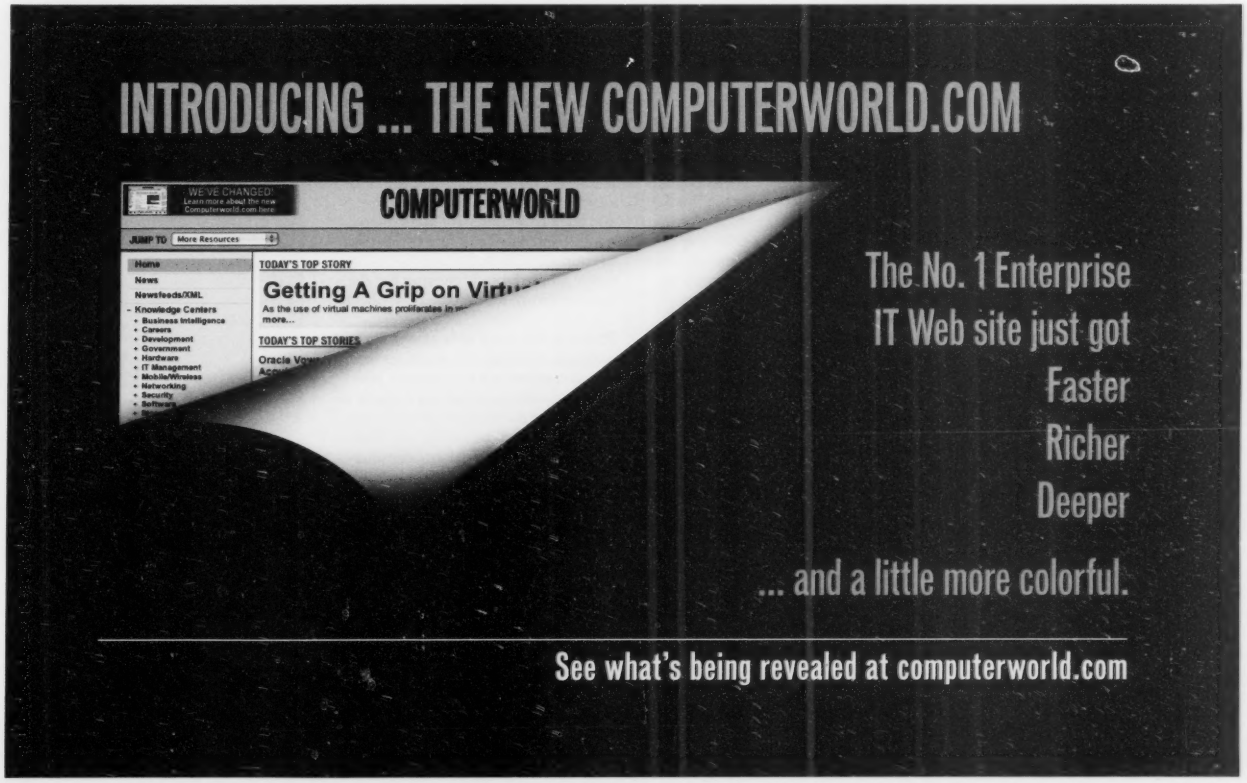
On Nov. 20, 1985, The Bank of New York's security broker/dealer clearing system suffered an epic meltdown that sent shivers through the U.S. government securities market.

"The application's original design did not take into consideration that the volumes it would need to process on any given day could grow by 6,500%," says Woetzel, who had been hired just three weeks earlier to head a small IT team. The bank's inability to clear U.S. government securities created a record $23 billion overdraft at the Federal Reserve discount window that evening, and the bank racked up millions in interest expenses.

LESSONS LEARNED:

- Develop processes to manage change. While few businesses suffer the level of IT catastrophe that befell The Bank of New York, all businesses change over time.
- Build a culture that emphasizes technology risk management. "There needs to be a strong emphasis on quality of technical design that considers the business dynamics and how engineers need to design for mitigating the risks those business dynamics create," says Woetzel.
- Keep your staff aware of these principles. Woetzel frequently uses the example of that fateful 1985 day. "There's nothing like a real-life example to help people focus," he says.

Artunian is a freelance writer in Newport Beach, Calif. Contact her at jartunian@sbcglobal.net.



The offshore outsourcing hot spots of the past decade may not be the only choice – or even the best.

Offshoring Opens Up

The popularity of some offshore outsourcing venues has come at a price. IT wages in Moscow have soared by 50% in the past few years. Banking industry IT turnover in some cities in India exceeds 30%, and hiring IT talent has become a nightmare, says **Diana Farrell** *in this month's* Harvard Business Review. *But the good news is that many new locales are opening up around the world. Farrell is director of the McKinsey Global Institute, McKinsey & Co.'s economics think tank in San Francisco. An interview with Kathleen Melymuka got preempted by a rush to catch a plane, but she caught up via e-mail to discuss how to weigh the benefits and risks of outsourcing in an untried area.*

DIANA FARRELL
director of the McKinsey Global Institute

So, despite the wage increases we hear about, the supply of low-cost IT talent abroad isn't drying up? There are a number of hot spots for IT talent in low-wage countries where wages are rising and attrition is high. Bangalore, Hyderabad, Prague are all good examples. But the good news is those tend to be the exception, not the rule. Our research shows that the supply of talent in low-wage countries will continue to exceed the demand for many years to come. More than 90% of the young professionals with seven years' experience in the low-wage countries we studied live outside the current hot spots.

McKinsey Global Institute's study of conditions in 28 low-wage countries found 6.4 million "suitable" young professionals.

What does "suitable" mean? We've defined "suitable" as young professionals with university degrees and up to seven years of experience who can successfully operate in a multinational company, meaning they have the requisite language skills, technical knowledge, practical experience and ability to interact successfully in a corporate environment. We calculated the suitable pool of talent based on interviews with almost 100 HR experts. The percentage of suitable young professionals varies widely from country to country, and population is not always an indicator of the size of the suitable talent pool. For example, in China, 10% of engineers are considered suitable for employment in a multinational, compared with 20% of Filipino engineers. So even though China's population is 16 times the size of the Philippines', its pool is only three times as big.

What effect will these workers have on the cost of offshore talent? Despite the talent hot spots, the huge supply of suitable professionals available for hire means that their average wages will remain relatively low. Our research suggests that average wages for these workers will not rise above 30% of U.S. levels.

And despite concerns in the U.S. and other developed countries, we don't anticipate that offshoring will impact salaries in high-wage countries significantly in the near term. That's because total offshore employment in services will likely represent only a tiny fraction of overall employment in developed countries. Our estimates suggest that the total number of jobs offshored by 2008 will reach 4.5 million — a large number, but not relative to the size of the developed-world labor pools.

For hot-spot salaries to level off, companies have to move into these new areas, and that means considering all kinds of benefits and risks that they don't need to think about if they're going into a settled market. What are some of those benefits and risks? Companies should weigh the benefits and risks before entering any market. We suggest that managers develop their own location cost index, weighing a host of factors, including costs, availability of skills, the business environment, the market potential and the quality of infrastructure.

You give examples of some surprising strengths in these new regions for companies with the right needs. Can you talk about the Dubai market for IT skills? There are a number of countries that become attractive for offshoring when you weigh the full range of criteria — not just costs, particularly in some niche areas. Dubai has fairly high labor and telecommunications costs and a small domestic market, but it offers a multinational, skilled and stable workforce, well-developed infrastructure, zero taxes and great amenities. The country is now marketing itself as an ideal location for IT disaster recovery and backup facilities for companies with IT-intensive offshore operations in countries like India and the Philippines, where labor is cheaper but the infrastructure tends to be less robust.

Obviously, it's scary to be among the first companies to establish operations or engage vendors in a new country. How should companies weigh and evaluate the benefits and risks? They should weigh data on the basis of the relative importance of the factors driving the decision to go offshore. They should also weigh the risks, including disruptive events such as labor uprisings or political unrest, security concerns, regulatory issues, currency fluctuation, and the strength of data and IP protection. So, for example, a U.S. company that puts the highest weight on cost will likely choose India, the Philippines or Malaysia, while a U.S. company that places a relatively high weight on the business environment may choose Mexico, Canada or Russia, or the U.S. itself. A German company with a relatively high weight on the business environment may ultimately opt for Eastern European countries like the Czech Republic, Hungary or Poland.

What if a company already has resources in a hot spot? Does it make sense for it to add new operations in the same place? Again, it depends on the company's needs. If a company opts to expand its operations in a hot-spot location, there are creative solutions to find low-wage talent. In some cases, they may be able to persuade attractive employees to move from other cities to their hot-spot operations. Allowing workers to telecommute is another option, as is setting up smaller operations in lower-cost cities relatively near hot-spot areas where they have established operations. ▸

This is the latest in a series of monthly discussions with **Harvard Business Review** authors on topics of interest to IT managers.

Where in The World?

SOME TIPS ON COMPARING LOCATIONS OBJECTIVELY:

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Career Watch

NEW CERT for SEC

The American National Standards Institute has accredited (ISC)²'s Information Systems Security Engineering Professional (ISSEP) credential. According to (ISC)² (the International Information Systems Security Certification Consortium), the ISSEP credential was developed with the U.S. National Security Agency to establish a level of knowledge and expertise unique to U.S. national security employees and contractors. (ISC)²'s CISSP credential is a prerequisite for acquiring the ISSEP certification.

IT EMPLOYMENT IN THE HIGH-TECH SECTOR

NOTE: The 2006 figure represents a 1% increase from the previous year, the first time since 2001 that the number of IT jobs has increased.

SOURCE: AMERICAN ELECTRONICS ASSOCIATION, WASHINGTON

Seeking STARS

A consortium of 10 colleges, mostly in the Southeast, has received a $2 million National Science Foundation grant to recruit a diverse group of students to earn college degrees in IT, computer science and other computing fields. The STARS (Students and Technology in Academia, Research and Service) Alliance aims to encourage more people to pursue careers in computer science and IT, particularly women, underrepresented minorities and people with disabilities.

As reported on *Computerworld.com* last month, the Washington-based Computing Research Association says that the number of bachelor's degrees in computer science at Ph.D.-granting universities fell to 11,808 in the 2004-05 academic year, down 17% from the previous year. Those schools enroll about 30% of the total undergraduates in the U.S. The same trend may also be affecting academic programs that combine business and IT skills training.

The STARS Student Leadership Corps will consist of 137 students in the first year of the project and more students in subsequent years. The program will use peer mentoring, research experiences, civic engagement and professional development to support computer science students throughout their academic careers. Participating students will receive stipends for two years to help recruit and retain other students.

Meanwhile, the National Center for Women & Information Technology received a $1 million, four-year grant from Microsoft Corp. in order to encourage women's participation in IT.

PAGE COMPILED BY JAMIE ECKLE.

Dan Reynolds

TITLE: CEO

ORGANIZATION: The Brokers Group LLC, Princeton, N.J.

Q&A

By most accounts, the economy is on an upward trajectory, with corporate profits growing, unemployment rates low and demand for skilled labor – including business-savvy technologists – leading to tighter market conditions. Contrast that with 2000 and 2001, when the dot-com bubble burst, resulting in widespread layoffs, overworked IT departments and a sharp rise in the use of offshore IT labor. So, what happened to those IT workers who lost jobs in the first few years of the new millennium? Many of them left the IT market and never came back, says Dan Reynolds of The Brokers Group, a regional staffing service. *Computerworld*'s Thomas Hoffman spoke to Reynolds about those vanished IT workers and other market trends.

How would you characterize the IT labor market? Is there strong demand for certain types of skills? There's strong demand in certain vertical industries. There's more money in the economy, and our business almost tracks the economy like a mirror. We're seeing strong demand for people with solid project-management skills. We're also seeing strong demand for sophisticated Java – specifically J2EE – folks. People with Microsoft .Net skills are extremely popular right now. Within these skill sets, clients are also looking for people with vertical-industry expertise, like pharmaceutical or biotech experience.

We're seeing strong demand for Oracle database administrators and a need for Unix systems administrators. We're also seeing a lot on the data warehousing/business intelligence side.

Is increased demand driving higher wages? What we saw last year was a leveling of wages. In 2006, we're seeing an increase in wages. Quality talent is scarcer, so people are recognizing they need to be more flexible around compensation. We're also seeing [IT] teams a little bit better staffed than in the past. It's unsustainable to have people work 12 to 15 hours a day. Companies are having to add people.

Are the IT workers who lost their jobs between 2001 and 2005 re-entering the market? Highly skilled people, people who brought value to the client, stayed employed. They might've stayed employed with a slight rate reduction, but not by much. Those people who weren't as highly skilled might have run into problems. If you were doing Cobol, CICS or DB2 [programming], you found yourself in a world of hurt for a while. I don't really see them coming back into the workforce that much.

Are employers leaning more toward hiring contract workers or full-timers? We're seeing [employers] trying to have their cake and eat it too. Most clients would like to bring workers on as contract labor with the option of picking them up as permanent employees. It's almost like doing a working interview, bringing someone on for six months and then determining whether to bring them on full time. We're seeing a lot of that. ▸

DATA BANK

72%	U.S. workers who say they are very or somewhat satisfied with their compensation.
44%	Say they would change their mix of cash and benefits if they could.
33%	Say they want a flexible schedule.
26%	Work for an organization that does not offer health care benefits.
25%	Would consider working for a company that doesn't offer health care.
22%	Want additional family benefits.

SOURCE: HUDSON HIGHLAND GROUP INC.'S 2006 COMPENSATION AND BENEFITS REPORT, A SURVEY BASED ON THE RESPONSES OF 10,000 WORKERS, CONDUCTED IN MARCH 2006

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COMPUTERWORLD SALARY SURVEY 2006

Under Threat OF Litigation

HOW TO SURVIVE A SOFTWARE AUDIT

"There are two types of companies: those that have been audited [for software violations] and those that will be." So says **Robert J. Scott,** *the managing partner of legal and technology services firm Scott & Scott LLP. Recent settlement fines for software license violations have topped half a million dollars, says Scott, and that's only a small part of the true cost to an audited company. Scott, who has extensive experience defending companies in software audits, spoke with* Computerworld's *Kathleen Melymuka about your rights and responsibilities.*

Let's start with the basics: What is a software audit? A software audit is a euphemism that describes circumstances under which a publisher or trade association investigates whether its customer is in compliance with software licenses and copyright laws pertaining to its products. In many instances, a software audit is conducted under the threat of litigation. They send a letter in which they say they will forgo litigation if you agree to produce proof that you're in compliance.

Why might I, as a CIO, find myself in the middle of an audit? There are a number of risks, and the categories depend on the size of the company. If you're the CIO in a large enterprise, you are going to face audits from the vendors directly related to contractual audit rights contained in most software license agreements. In a midsize or small enterprise, you're more likely to be targeted by a trade association such as the SIIA [Software & Industry Information Association] or the BSA [Business Software Alliance].

What are the chances of that happening? It's inevitable. Adjusted for time, having an audit is a virtual certainty. And most publishers are only enhancing their enforcement operations. Both the BSA and the SIIA have quadrupled the reward money offered to disgruntled employees over the last six months. Most IT budgets are fairly flat, and the only way the industry is going to survive, in their opinion, is by increasing wallet share. One way of doing that is by auditing and using that as a mechanism to generate revenue.

If I'm faced with an audit, how worried should I be? You should be very worried. A software audit is a big deal for a number of reasons. The biggest is the organizational impact and disruption. There's also the financial impact, and damage to brand from the negative publicity associated with an unsuccessful audit.

What kind of resources will it take for my company to address a software audit? The amount depends on the scope. Agency audits are broader because they represent a number of publishers. An individual audit is more narrow in scope, so it's less disruptive. But the impact is significant. It will require emergency projects in IT that are unplanned and

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unbudgeted, and emergency projects in procurement and finance, also unbudgeted and unplanned. There will be significant impact in the legal department because you are threatened with copyright infringement litigation. And the C-level suite will be impacted as well.

What types of things are auditors from the BSA and SIIA looking for? The typical request is for the company to document every single installation of software, throughout the enterprise, of the member publishers — what products and how many installations by version — and to produce a dated proof of purchase that demonstrates that the software was purchased prior to the date of the audit letter.

So they want to shift the burden of proof to the company that is the target. It's not, "We'll prove you've done something wrong," but, "To avoid court, you have to prove to us that you haven't done anything wrong."

Think about the impact of documenting every installation of every product, but also the document collection and reconciliation, which is highly time-consuming, expensive and difficult to accomplish.

What are some of the common mistakes a novice IT manager might make when faced with an audit? The No. 1 mistake people make is to think of this as a purely IT problem. It's not an IT problem solely; it's a legal problem. It's a threatened copyright infringement case, and you need to involve lawyers who have expertise in managing the risks.

Having said that, we have seen clients do things that don't manage those risks. The biggest mistake they make is to go out on an indiscriminate buying spree as a result of receiving the audit letter. But it's too late.

The second-biggest mistake is failure to produce the audit materials as of that effective date. Clients come to us later, and we see that they've presented data that doesn't even purport to be a picture of the situation on the effective date. Typically, it's a picture of the situation a month or so later. In the meantime, the CEO has gone to the CIO, they've downloaded free discovery tools, they've bought software, they've done a number of things that caused a delay because they haven't been properly advised. And typically, they're not doing the investigation until months later. IT is a dynamic environment; it's constantly changing.

The third mistake is voluntarily producing damaging information to the agencies without securing an appropriate agreement beforehand that they won't use the information against you in court if a settlement is not achieved. We require that any information we give them is limited to settlement discussions, and they cannot take what we give them and use it against us in court.

The fourth mistake is that people fail to understand that there are many monetary and nonmonetary components of resolving a software audit as well as postsettlement costs in terms of future audits and certifications, and those postsettlement and nonmonetary costs affect the total cost of a software audit.

What steps should a smart IT manager or CIO take to prepare for an impending software audit? The only way to be successful in achieving a low-risk state is to build appropriate processes and procedures into your daily business operations. It needs to be part of procurement, part of IT operations, part of document retention and accounting operations. You have to comply with good business practices, retain documents you need to retain and implement the tools you need to do internal auditing so you can constantly manage what you have and reconcile what you have installed against what you've purchased. If you don't have in place a program for software management that can provide internal audits with accurate, predictable and consistent results, you need to get one.

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EVENTS

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June 19-20, New York
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This conference includes topics such as preventing domestic and international privacy violations, negotiating risk allocation provisions, defining the scope of licensing rights and restrictions, implementing and maintaining sound confidentiality policies, and adjusting to key changes in the industry.
www.americanconference.com

Project Management

June 19-21, Pittsburgh
Sponsor: CMU's CIO Institute
Complex IT Project Management is a three-day course at Carnegie Mellon University worth 21 professional development units for project management professionals. Topics include defining complex project management; managing project stakeholders, team resources, project controls and change management; identifying and managing risk; and dealing with contract management.
http://cioi.web.cmu.edu/programs/complex.jsp

CIO Symposium

June 21, Cambridge, Mass.
Sponsor: MIT's Sloan School of Management
This conference includes three tracks. The "CIO as CEO of IT" track covers how CIOs manage people and their teams, and how CIOs manage interaction with the rest of the organization. The CIO's Technology Toolkit track examines outsourcing and hosted software, data security, open-source software and information infrastructure. The third track looks at emerging technologies.
www.mitcio.com

IT Performance Measurement

June 26-28, Philadelphia
Sponsor: International Quality & Productivity Center
This conference includes presentations on designing and developing meaningful metrics, using metrics to align IT to customer objectives, using a strategy map and balanced scorecard, and using metrics to align IT to business.
www.iqpc.com

PAUL GLEN

When Life Intrudes On the Workplace

OVER THE YEARS, I've come to the conclusion that a critical measure of a manager isn't always found in hard metrics, productivity or profit, but in humanity. I've also learned that this humanity often shows itself best when life intrudes on the workplace.

Many years ago, I went through a rather painful divorce (not that there's any other kind), and I was astonished at how my boss handled the situation. His human kindness showed through in how he dealt with me when life intruded on work, and the way he behaved turned out to be not only humane but good for business.

PAUL GLEN is the director of the Developing Technical Leaders program (*www.developingtechnicalleaders.com*) and author of the award-winning book *Leading Geeks: How to Manage and Lead People Who Deliver Technology* (Jossey-Bass, 2002). Contact him at **info@paulglen.com.**

At first I tried to hide my marital problems. Even though I was separated, I didn't tell anyone at work about it. I didn't want people to think of me as unstable or unreliable, although I knew that I was both. Plus, who wants to start telling all their coworkers about what a dirty so-and-so their soon-to-be ex is only to reconcile and then have to sheepishly explain why they were totally wrong about their prior grievances?

At the same time, I was a basket case. I couldn't focus on work, only on the waves of emotion that seemed unstoppable. Anger, fear and sorrow were my ever-present companions, and the petty details of work seemed overwhelmingly unimportant. I couldn't focus on anything but my crumbling personal life.

By the time I realized that I hadn't accomplished a single thing in a month, I decided that I should talk to my boss about what was going on. But I was still reluctant to do it. I was afraid that I'd be fired for my poor productivity or marginalized as a mental case. I imagined the meeting many times. All the scenarios in my head ended with embarrassment, shame and humiliation, and some even included impoverishment.

So, prepared for the worst, I went to my boss's office, slunk inside and shut the door.

The conversation started out much like any other one: There was the normal amount of small talk, some observations on the project I was working on, his listening, my fidgeting. Finally, I let out my awful little secret. I explained that I knew that I hadn't been very productive lately and apologized for not telling him about my personal issues sooner. I confessed that I didn't know what to do about it.

Then I shut up and waited for the ax to fall.

But it didn't. There was no "Pull yourself together, man" talk. Instead, he started telling me about his own personal life, about the time that he and his wife had separated and almost gotten divorced. He talked about the challenges of divorce and of reconciliation, of work and home, of planning for a life and then reconstructing it after the plans fall apart. It was most reassuring.

But despite the reassurance, I still waited for the ax to fall.

As the meeting progressed, my boss never brought up the subject of work. He kept the conversation on my life and his. So I turned the conversation to work. Knowing that my attention was elsewhere, I still felt the need to decide what to do about my lack of focus and production.

My boss agreed that we probably should reassess my workload and task assignments. He told me to first worry about my life and to take the time I needed to get things together in that area. He would continue to keep me on the project, but in a less-central role, for now. My critical-path tasks would be reassigned, and new, less-critical ones would be assigned to me. That way, if I was late or my work quality was poor, it wouldn't be as big of an issue.

I walked out of his office in a stunned daze. I hadn't dreamed that he would be so supportive. Of course, I was half suspicious that his kindness would wear off at some point and I'd be out on the street.

But through the long summer, he was true to his word, never intruding on my life, never complaining about my sorry state.

Many times that summer, I wanted to quit, leave town and start a new life, but I didn't. I stayed with the company for many years and went on to head up its West Coast operation.

The professionalism and kindness my boss had shown helped keep me at the company, and I like to think that I repaid it well.

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8:30am to 8:40am	**Introduction and Overview** Ron Milton, Executive Vice President, Computerworld
8:40am to 9:20am	**Business Intelligence Best Practice and Technology Overview** Kurt Schlegel, featured Research Director, Gartner
9:20am to 10:00am	**Competing on Analytics** Thomas Davenport, President's Distinguished Professor of Information Technology and Management, Babson College
10:00am to 10:15am	**Refreshment and Networking Break**
10:15am to 10:50am	**Using Technology to Get Better Answers Faster** Keith Collins, Senior Vice President and Chief Technology Officer, SAS
10:50am to 11:25am	**BI at Pfizer: A Case Study** Danny Siegel, Director, Human Health Information Technology, Pfizer Global Pharmaceuticals Division, Pfizer, Inc.
11:25am to Noon	**User Case Study**
Noon	**Optional Luncheon and Presentation:** **Making BI a Success – Getting the Edge** Kurt Schlegel, featured Research Director, Gartner

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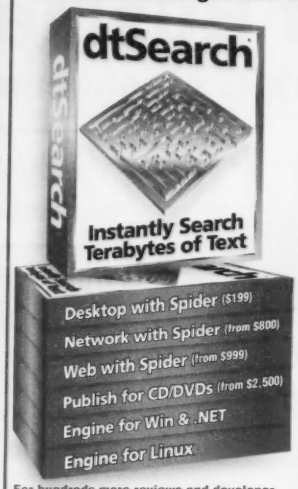
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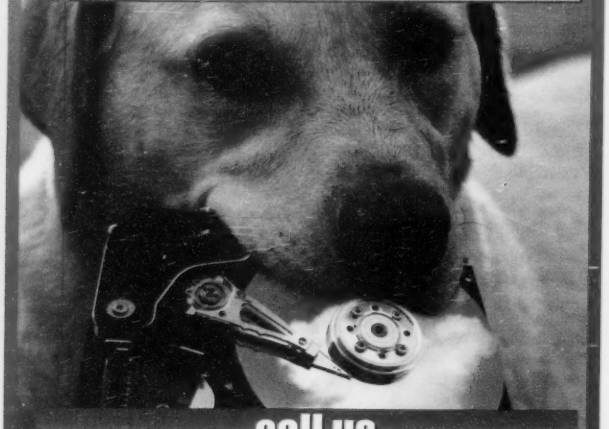

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Microsoft to Expand BI Plan

BY HEATHER HAVENSTEIN

Microsoft Corp. this week plans to unveil an updated business intelligence strategy that includes its first business process management (BPM) offerings.

The BPM family will feature new dashboard tools and analytic applications for budgeting, planning and other financial tasks, analysts said.

Microsoft will also announce plans for shipping the visualization tools gained with its acquisition of ProClarity Corp. in April, analysts said.

Some of the products will be available later this year while others will ship next year, an analyst said.

Even though Microsoft seems poised to expand its BI initiatives, some users said they have already successfully replaced traditional BI tools with the vendor's SQL Server-based tools.

Goulds Pumps Inc., a subsidiary of ITT Industries Inc., last week began to move all of its 2,000 internal users to Reporting Services 2005, the reporting tool in SQL Server 2005, said systems analyst and database administrator Christopher Bellizzi.

The Microsoft tools will replace ReportNet reporting software from Cognos Inc. at the Seneca Falls, N.Y.-based manufacturer of water pumps, Bellizzi said. The company also uses an earlier version of the Microsoft reporting tools.

Later this year, Goulds plans to replace the Cognos PowerPlay analysis software used by its power users with Microsoft's Analysis Services 2005 OLAP tool, he added.

The annual licensing costs to keep the Cognos software in place are approximately equal to the one-time licensing and hardware costs of deploying SQL Server 2005, Bellizzi said, without providing any figures. In addition, the Cognos software was "really overkill" for the company's reporting requirements, he said.

Goulds Pumps also expects to further reduce its use of the Microsoft Access database as it expands its use of Reporting Services 2005 and its SQL Server database. Use of the older Reporting Services 2000 has already allowed the firm to cut its total Access licenses from 6,500 Access databases three years ago to 4,000.

"We're generating close to 2,000 hits on the Reporting Services database for reports every month," Bellizzi said. "Who knows how many [Access databases] I can really stick a fork in, because you can use [Reporting Services 2005] and get the same information."

Crossmark Inc., a provider of labor and services to consumer packaged goods manufacturers and retailers, has almost completed a project to replace a pure-play BI tool with Reporting Services 2005, said Charlie Orndorff, vice president of infrastructure services at the Plano, Texas-based company.

He declined to name the tool being replaced but said it was too cumbersome for monitoring sales of specific products by stores. When the rollout is complete, Reporting Services will be used by 16,000 employees to pull summary data from a field force automation application running on SQL Server 2005, said Orndorff. The database processes point-of-sale data for 30,000 locations and 60,000 items weekly, he said.

Experian Marketing Services in Costa Mesa, Calif., began using SQL Server 2005 BI tools in production about six months ago for a project called ProspectVue, said Eric Tagliere, vice president of technology development.

Experian is using SQL Server to process large data sets about potential customers for retailers, financial services firms, catalog companies and other businesses to use in marketing campaigns, Tagliere said.

The company has struggled to optimize the SQL Server database to meet its performance demands, he noted. "Microsoft had to make some changes to how their software processes some things to provide us the speed and scalability we need," Tagliere said.

Some of the products will ship later this year, while others will be available next year, analysts said. ▸

BI TIMELINE

Microsoft's Moves

1998: Releases its first OLAP tool as part of SQL Server 7.

2000: Releases Analysis Services, which includes renamed OLAP tool and data mining tool.

February 2003: Announces plan to develop BI reporting tool.

October 2005: Announces that enhanced BI features will be included in Office 12.

November 2005: Ships its Office Business Scorecard Manager 2005, which measures employee performance against key indicators.

November 2005: Ships SQL Server 2005 with enhanced reporting and analysis software.

April 2006: Acquires BI analytics visualization vendor ProClarity Corp.

June 2006: Announces new business performance management initiative.

Continued from page 1

Sun

may reflect overlap from the StorageTek acquisition.

Chuck Sears, director of research computing at Oregon State University in Corvallis, which has more than 100 Sun Opteron-based servers, added, "We all look forward to future clarification" about Sun's plans.

Sears said he hopes that the moves won't slow Sun's effort to integrate its computer, storage and networking systems, so he can devote resources to research rather than to improving systems integration.

Sun declined to specify what products will be affected by its streamlining, other than to provide a written statement that "the company has not identified products or projects that will be affected at this time."

"There was very, very scant information provided that would allow us to go through an analysis of what the effect is going to be on Sun's products," said Paul McGuckin, an analyst at Gartner Inc.

Between the Lines

But analysts did make some assessments based on what Schwartz didn't say.

For instance, Schwartz told financial analysts that Sun will focus on network computing and cited several technologies "that represent the future of such system innovation." His list included the UltraSparc eight-core Niagara servers, some new StorageTek storage tape drives and "Thumper," a soon-to-be released Opteron-based product that combines servers with storage.

Including the Thumper technology in Sun's future plans "calls into question some of Sun's other storage products, which are based upon proprietary technology," McGuckin said. Those proprietary storage technologies "are going to get more scrutiny and perhaps cut," he said.

"What we're telling clients is any road map dependencies that they have, they should get written commitments from Sun," McGuckin said.

Schwartz took leadership of the company on the same day it posted a fiscal third-quarter loss of $217 million. Despite the loss, Sun officials expressed optimism about the future, pointing to a 21% increase in revenue during the same period, to $3.2 billion. The acquisition of Storage Technology Corp. last August helped to boost revenue in the quarter.

Analysts had expected substantial layoffs, though Schwartz had said in April that the company may only need some "pruning."

"Customers can expect some consolidation in their sales force, and they are going to find it harder and harder to get a specialist," predicted Susan Aldrich, an analyst at Patricia Seybold Group in Boston. ▸

Sun Workforce

Sun plans to cut 4,000 to 5,000 jobs. Here's a look at its head count every year since 2002, as reported at the end of each fiscal year on June 30.

*Before expected layoff of 4,000 to 5,000 workers. Figure includes employees added in August 2005 StorageTek acquisition.

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FRANK HAYES ■ FRANKLY SPEAKING

Vista Opportunity

YOU'RE about to get a rare opportunity. Oh, not this week, or even this year. But sometime next year, you'll likely start rolling out Windows Vista. That's when you'll have the opportunity to make your end users truly loathe you — or make them feel like IT really is on their side after all.

Here's the deal: Now that we've seen the beta version of Vista, we know that with Vista's tighter security, users suddenly won't be able to do things they did before. And Vista's fancy new user interface will break a decade's worth of efficient user habits.

Ooh, they're gonna hate that.

Your opportunity? It's in a few key decisions that will make users' transition to Vista either miserable or much easier. Those decisions are whether you'll help them install their personal software, whether you'll adjust Vista so it uses classic Windows menus and whether you'll help them with Vista at home.

Personal software: You know how annoying it is that users install just about *anything* on their PCs? Vista's tighter security makes that harder to do. Users will no longer have administrator privileges, so they won't be able to install some software. Other software may not install at all, because Vista is designed to reduce registry changes and other problematic practices.

For IT people, this sounds like a dream come true — no more users messing up PCs with their own software. Trouble is, some of that software is actually useful to users, and even crucial for getting real work done, even if it's not IT-approved. If users can't install it once you roll out Vista, you'll make enemies and damage productivity in a single shot.

Here's your decision: You can just say no to non-IT software, locking those PCs down hard. That's declaring war. Or you can say "Yes, but" — as in "Yes, we'll install that for you, *but* we can't support it, and if it turns out to be a problem, we may have to remove it."

Sure, that's more work for IT. But it makes you look like good guys. You also get to see what users are installing and keep an eye out for illegal or dangerous software.

And if something just won't install, you can explain that you're sorry but Microsoft beefed up security in Vista and you can't change that. Users won't be happy, but at least they'll be mad at Bill Gates, not you.

FRANK HAYES, *Computerworld*'s senior news columnist, has covered IT for more than 20 years. Contact him at **frank_hayes@computerworld.com**.

Classic menus: By default, Vista gets rid of the drop-down menus users are used to. Your decision: Leave it that way, or tweak your distribution image so your company's standard Vista uses "classic" Windows menus.

If you put the classic training wheels on Vista, some users are sure to experiment and may switch to the new user interface. But until then, they'll be able to find their way around. On the other hand, if you go with the snazzy new Vista look and feel, expect a big training cost — or a big productivity hit while frustrated users fumble around figuring it out.

Your help desk *will* need to support both versions. But when they get the inevitable "Why is this so complicated?" question, their mantra can be that they're sorry, but that's how Microsoft set up Vista. That's right — blame Bill Gates again.

Vista at home: Vista will come in multiple flavors. Some home-PC versions lack features that business versions have. Your decision: Let users dope out the differences on their own, or cross-train your help desk on the home version.

There's an easy way to split the difference: Buy a cheap Vista home PC for the help desk to kick the tires on. Face it — some users will be working from home on these crippled Vista versions. The more you can help them, the more productive they'll be, and the happier they'll be with IT. And when they ask why their version of Vista is missing what they expect — well, you know the mantra.

So there's your opportunity: When Vista rolls out, you can hobble users or help them. Just remember that if you make them do it the hard way, they'll figure out who to hate.

And it won't be Bill Gates. ▸

SHARK TANK

A Little TOO Efficient

Support pilot fish chastises an executive assistant for the sloppy organization of files on her PC, and the user promises to clean things up. Next morning, fish gets a call: "She said I'd be really proud of her because she cleaned up her desktop and all other areas of her hard drive, saving all of her files to the My Documents folder," says fish. "However, there were many files left over on the drive that weren't hers that she was reluctant to delete in case they were mine. So she gathered them all up and placed them in a folder she named Misc. Her other reason for calling me: Now her computer won't start up at all."

Unclear on The Concept

Draft specifications for this hospital's new application include two key requirements, reports a pilot fish on the scene. "The application *must* be Web-based and also *must* be accessible when the server is down," fish says. "Strangely enough, those did not end up being in the final specs."

And From Where?

Receptionist handles this pilot fish's calls to filter out sales pitches, and he can hear her following the script he wrote: "Yes sir, to whom do you wish to speak? Your name, sir? And you are calling from?" She pushes the hold button and howls, "He said, 'My cell phone. Why?' "

Who's Calling?

New sales rep tells pilot fish she needs to change the name that comes up when she makes calls using her company-issued cell phone. "She explained that her predecessor wasn't well-liked and that people don't answer her call, thinking it's her predecessor," says fish. "We told her that cell phones don't transmit names and that changing what pops up would require us to call everyone who might have her loaded as a contact. Further investigation showed that the person she was calling was, in fact, another sales rep in our company."

Expectations

It's a stormy day, and this support pilot fish knows that means trouble. "Our bank's branches have a network application that the tellers use," explains fish. "If the power even flickers, the tellers lose their connection and need to be reset to get back online. This day, power was going out constantly for short periods, and every time all the tellers needed to be reset. I got a call from an angry branch manager saying this was ridiculous and had to be fixed ASAP. I calmly told him it was due to high winds from the storm. Manager replied, 'So when should I expect a tech?' "

SHARKY EXPECTS YOU to send him your true tale of IT life at **sharky@computerworld.com**. You'll score a sharp Shark shirt if I use it. And check out Sharky's blog, browse the Sharkives and sign up for Shark Tank home delivery at **computerworld.com/sharky.**

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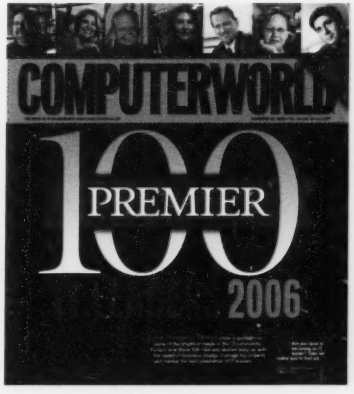

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